

MANAGEMENT PRESCRIPTIONS

INTRODUCTION

The 1985 Land and Resource Management Plan for the Jefferson National Forest included specific direction on how to manage different land areas. These land areas were called management areas. This revised plan also contains management areas, but they are now related to ecological regions, watershed boundaries, and other biological, and social divisions of land found across the Jefferson National Forest. These new management areas are described in Chapter 4.

Each management area has different attributes that require a slightly different management emphasis. These differences are reflected in the management prescriptions applied to each area. Management prescriptions related to one another are grouped in "categories," numbered 0 through 12. The numbering system and emphasis of each management prescription is consistent across the national forests of the southern Appalachians. This Chapter only includes management prescriptions used in the Revised Forest Plan; therefore, there are gaps in the numbering sequence. A complete list of management prescriptions used throughout the southern Appalachians, along with their related emphasis, is available in *Process Paper: Management Prescriptions of the Southern Appalachians*.

All management prescriptions provide multiple uses, even though their titles may imply a single use. Each management prescription includes:

Title – tells the primary focus of management.

Emphasis – briefly describes this primary focus of management for the prescription area in a little more detail.

Desired Condition – shows opportunities and/or conditions available in the future for all the multiple uses and resources found throughout the prescription area.

Standards – provides managers specific management direction as they work toward achieving the desired condition for each particular area.

Table 3-0 on the next page lists each of the management prescriptions, their total acres of national forest system lands, the percent of the Jefferson National Forest allocated to each individual management prescription, and the acres of lands suitable for timber production within each management prescription.



Table 3-0. Summary of Management Prescriptions on the Jefferson National Forest.

Management Prescription	Total Acres on Jefferson National Forest	Percent of Total Jefferson National Forest Acres	Acres of Lands Suitable for Timber Production	Management Prescription	Total Acres on Jefferson National Forest	Percent of Total Jefferson National Forest Acres	Acres of Lands Suitable for Timber Production
OB	3,500	<1%	0	7D	6,000	1%	0
1A	57,800	8%	0	7E1	19,600	3%	0
1B	25,200	3%	0	7E2	51,800	7%	36,200
2C1	900	<1%	0	7F	3,900	1%	1,300
2C3	4,400	1%	0	7G	3,700	1%	0
4A	30,700	4%	0	8A1	112,600	16%	85,600
4C1	1,500	<1%	0	8B	19,600	3%	13,200
4D	4,700	1%	0	8C	57,300	8%	40,600
4E1a	200	<1%	0	8E1	16,000	2%	11,500
4E1b	1,500	<1%	1,000	8E2a	2,400	<1%	0
4F	1,000	<1%	0	8E2b	5,300	1%	4,100
4J	3,900	1%	1,900	8E4a	900	<1%	0
4K1	5,200	1%	1,500	8E4b	8,800	1%	6,400
4K2	4,400	1%	0	8E6	1,300	<1%	400
4K3	5,100	1%	0	9A1	19,200	3%	12,800
4K4	5,100	1%	0	9A2	<100	<1%	0
4K5	4,200	1%	0	9A3	1,700	<1%	500
4K6	5,500	1%	0	9A4	6,500	1%	0
5A	200	<1%	0	9F	7,400	1%	0
5B	200	<1%	0	9G1	100	<1%	0
5C	3,700	1%	0	9H	24,700	3%	12,900
6A	300	<1%	0	10B	16,200	2%	11,600
6B	800	<1%	0	11	(73600)	10%	0
6C	30,200	4%	0	12A	9,700	1%	0
7A	1,800	<1%	0	12B	91,300	13%	0
7B	23,500	3%	17,000	12C	9,800	1%	0
7C	1,500	<1%	400	TOTAL	723,300		258,900

OB CUSTODIAL MANAGEMENT - SMALL, ISOLATED LAND AREAS**OB CUSTODIAL
MANAGEMENT**

This management prescription is allocated to approximately 3,500 acres (<1%) across the Jefferson National Forest.

EMPHASIS:

These areas are managed at a minimum level prior to disposal or land exchange. No expenditures are involved except those required by law, to fix environmental problems, or to protect human health or safety. No resource is emphasized.

DESIRED CONDITION:

These areas are generally surrounded by private lands and not accessible by the public. There are no developed recreation areas. Adjacent private landowners control access to the limited dispersed recreation opportunities found in these areas. The desired future condition of these tracts is conveyance to private ownership.

These areas retain a natural, forested appearance shaped primarily by natural processes until conveyance. These natural appearing landscapes feature a structurally diverse, multi- aged forest community under a continuous forested canopy, with the exception of occasional gaps created by storms, insects, diseases, or fire. Infrequent pastoral and historic/cultural enclaves may also exist.

These areas do not contain rare communities, or threatened, endangered, or sensitive species habitat. No particular forest successional stage is emphasized. Other than inventory work prior to conveyance, no investments are made in wildlife, fisheries, recreation, or scenery.

STANDARDS**General**

- OB-001 These tracts of land are identified as available for trade.
- OB-002 Limit land and resource management investments and activities to resource inventories, location and marking of boundaries, and the specific items mentioned in the following standards.
- OB-003 If threatened, endangered, sensitive, or locally rare species, a rare community, or significant heritage resources are found within an area; it will no longer be available for disposal.

Water, Soil, and Air

- OB-004 Watershed restoration needs are completed prior to conveyance.

Vegetation and Forest Health

- OB-005 Only control insect and disease outbreaks to prevent damage to resources on adjacent land; or where needed for safety or legal reasons.
- OB-006 Allow salvage of dead, dying, and damaged trees only for fuels reduction, pest management, or public safety reasons.

Timber Management

- OB-007 These lands are unsuitable for timber production.

**OB CUSTODIAL
MANAGEMENT**

Wildland Fire Suppression

OB-008 Lightning fires are generally suppressed to minimize acreage burned due to the proximity of private lands.

**1A DESIGNATED
WILDERNESS**

Scenery

OB-009 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	M	L	L	L	L	L

Minerals

OB-0010 These areas are available for Federal oil and gas with a No Surface Occupancy stipulation. Other Federal mineral leases are allowed on a case-by-case basis. Allow existing Federal leases to continue until expiration. Do not reauthorize. Allow roads, pipelines, utilities, and other facilities per existing Federal leases.

OB-011 These areas are not available for mineral materials for commercial, personal, or free use purposes. Administrative use of mineral materials is allowed.

Roads

OB-012 Road construction is generally prohibited, subject to valid existing rights or leases. Limit road reconstruction and/or decommissioning, including betterment and relocation, to (a) improvement of soil and water, (b) maintenance of existing special uses and mineral leases, (c) access to private rights, and (d) protection of property or public safety.

OB-013 Road construction, reconstruction, and decommissioning are informed by a watershed-scale or site-specific road analysis.

Lands and Special Uses

OB-014 When considering new special use authorizations, evaluate the effect of additional encumbrances on these tracts. Encourage proponent to trade this tract for another.

1A DESIGNATED WILDERNESS

Congress has designated eleven wilderness areas on the Jefferson National Forest: James River Face, Thunder Ridge, Barbours Creek, Shawvers Run, Mountain Lake, Peters Mountain, Kimberling Creek, Beartown, Little Dry Run, Little Wilson Creek, and Lewis Fork. These areas encompass 57,645 acres (8%) of the Jefferson National Forest and 115 acres on the George Washington National Forest.

EMPHASIS:

The emphasis is to allow ecological and biological processes to progress naturally with little to no human influence or intervention, except the minimum impacts made by those who seek the wilderness as a special place offering opportunities to experience solitude and risk in as primitive surroundings possible.

DESIRED CONDITION:**1A DESIGNATED
WILDERNESS**

The Wilderness Act of 1964 describes wilderness 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. Wilderness is an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed to preserve its natural conditions. Wilderness generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable. It has outstanding opportunities for solitude or a primitive and unconfined type of recreation. It 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, it may also contain ecological, geological, or other features of scientific, educational, scenic, or historic value."

These areas retain a natural evolving landscape character shaped primarily by natural processes. These landscapes feature a structurally diverse older aged forest community with a continuous forested canopy, with the exception of occasional gaps created by storms, insects, diseases, or fire. The valued character of these landscapes is intact with no deviations.

By the year 2064, visibility will return to natural conditions as mandated by EPA's Regional Haze Regulation and Clean Air Act Amendments of 1977. Land managers interact with regional consortia of states (e.g., Visibility Improvement States and Tribal Association of the Southeast) to improve visibility conditions in the James River Face Wilderness, a Class I area. Visibility improves incrementally during this planning period as the Regional Haze Regulation is implemented (US EPA, 1997).

Natural processes will eventually result in a large patch of late successional to old growth forest matrix dominated by shade tolerant hardwoods and white pines throughout most of this area. Rare communities and associated species not dependent upon disturbance will continue to exist. Disturbance dependent communities will decline across this prescription area, and be confined to small brushy and herbaceous gaps and occasional large openings from natural disturbance events. Insects and diseases, primarily gypsy moth, hemlock woolly adelgid, oak decline, and southern pine beetle, play a major role in shaping future species composition and successional stages across these areas. Non-native vegetation occurs only as transients and is not self-perpetuating. Cavity trees, cull trees, standing dead trees, and down logs are common throughout the area as a result of natural mortality.

Wildlife species associated with area-sensitive mid- to late-successional forest habitats that are expected to inhabit this area include: ovenbird; cerulean warbler; black-billed cuckoo, and Swainson's warbler. Management of the area is focused on protecting and preserving the natural environment from human influences. Timber harvest is not appropriate within this prescription area. Wildland fires may be used to restore and maintain the historic fire regime. Prescribed fire may be used to reduce the risks and consequences of wildland fire escaping from the area. Integrated pest management favoring biological controls may be used to eradicate or suppress non-native invasive pests. Non-commercial felling of trees with hand tools may be used to construct and maintain trails.

Recreation management is designed to provide solitude and remoteness in the most primitive and natural recreation setting possible. To this end, access to the area is limited. Trailheads at surrounding roads are designed with sensitivity to scale and character to set the tone for experiencing a primitive recreation experience. Once in the designated wilderness, visitors on foot or horseback must rely, to varying degrees, on their own personal physical abilities and primitive recreation skills. Wilderness recreation includes inherent risks. Visitors are isolated from the sights and sounds of others and encounters

**1A DESIGNATED
WILDERNESS**

with other visitors are rare. Travel within wilderness is strictly non-motorized.

Most visitor information is dispensed outside of the wilderness at trailheads and through off-site public information and education efforts. Wilderness visitors are encouraged to "pack-it-in and pack-it-out" and to "leave no trace." Wilderness trails lie lightly on the land, typically narrow footpaths or horse trails with minimum directional signing that blends well with the natural surroundings. Visitors are physically challenged as they ford streams and climb over downed trees.

Very few facilities are provided. Permanent human-made shelters may be present if they existed prior to wilderness designation, particularly along the Appalachian National Scenic Trail. Construction of new shelters on new sites within wilderness is not appropriate, unless there is an obvious and overriding need to protect the natural resources from visitor impacts. Structures including signs, bridges, waterbars, and constructed water sources for the comfort or convenience of visitors in wilderness are minimal. The few structures appearing in wilderness are generally for the protection of resources or were present prior to wilderness designation.

The Federal Government owns the lands within the boundaries of designated wilderness areas, both surface and subsurface, with no encumbrances.



James River Face Wilderness - Virginia's first congressionally designated wilderness

STANDARDS**1A DESIGNATED
WILDERNESS****General**

- 1A-001 Motorized transport or mechanized equipment is not allowed, except in emergencies. All such uses require advance approval. See specific exceptions in the standards under Fire, Law Enforcement, Recreation, Appalachian Trail, and Forest Health.

Water, Soil, and Air

- 1A-002 Maintain soils in a natural undisturbed state, except for approved watershed restoration projects, wildland fire control measures, campsite rehabilitation, and trail construction, use, and maintenance. Favor natural healing of disturbed sites.
- 1A-003 Allow mitigation for acid rain and other pollution effects and evaluate on a case-by-case basis with Regional Forester approval.

Terrestrial and Aquatic Species

- 1A-004 Existing old fields, wildlife openings, and other habitat improvements for fish and wildlife are not maintained, and succeed to forest, deteriorate over time, or are removed. New permanent wildlife openings are not created.
- 1A-005 Allow stocking only to reestablish or maintain indigenous, threatened, endangered, or sensitive species with Forest Supervisor authorization.

Threatened, Endangered, And Sensitive Species

- 1A-006 Within the Peaks of Otter salamander habitat conservation area, activities in the Thunder Ridge Wilderness Area must comply with the Habitat Conservation Agreement for Peaks of Otter salamander. See Management Prescription 8E2 for Peaks of Otter salamander habitat conservation area management direction.

Rare Communities and Old Growth

- 1A-007 Rare communities are only maintained through natural processes, with the exception of appropriate management associated with threatened, endangered, sensitive, or locally rare species.

Vegetation and Forest Health

- 1A-008 Forest insect and disease outbreaks are controlled only if necessary to prevent unacceptable damage to resources on adjacent land, prevent an unacceptable loss to the wilderness resource due to non-native pests, or protect threatened, endangered, and sensitive species.
- 1A-009 Use control measures that have the least adverse impact on the wilderness resource. Favor biological control methods.
- 1A-010 Actions to control Insects and diseases may be approved by the Regional Forester under the following conditions:
- ▶ There is an immediate threat of unacceptable damage to resources outside the wilderness boundary and the threat cannot reasonably be abated by control actions taken outside the wilderness boundary; or
 - ▶ There is an immediate threat of unnatural loss of the wilderness resource due to a non-native insect or disease.
- 1A-011 Eradicate non-native invasive plants when the infestations are isolated. Use hand-applied chemicals, with Regional Forester approval, when necessary.

Throughout this document, references to the Peaks of Otter salamander habitat conservation area includes both primary (8E2a) and secondary (8E2b) habitat and the applicable standards will be followed.

**1A DESIGNATED
WILDERNESS****Timber Management**

- 1A-012 These lands are classified as withdrawn from timber production. Timber harvest is not allowed.

Non-timber Forest Products

- 1A-013 Do not issue authorizations for the commercial use of any forest products.
- 1A-014 Allow personal-use collection of dead and down wood only for on-site campfire use.
- 1A-015 Allow personal-use collection of non-timber forest products (nuts, berries, pinecones, etc.), provided they are not threatened, endangered, sensitive or locally rare.

Wildland Fire Suppression

- 1A-016 Use Minimum Impact Suppression Tactics (MIST) which employ suppression methods and equipment that cause the least alteration of the wilderness landscape, least disturbance of the land surface, least disturbance to visitor solitude, least reduction of visibility during periods of visitor use, and least effects on air-quality-related values.

Prescribed Fire and Wildland Fire Use

- 1A-017 Management-ignited prescribed fire is allowed to reduce a buildup of fuels to an acceptable level and to decrease the risks and consequences of wildland fire escaping from wilderness.
- 1A-018 With an approved fire plan, wildland fire use is allowed to permit lightning-caused fires to play, as nearly as possible, their natural ecological role.
- 1A-019 With the exception of firelines, only allow rehabilitation of a burned area if necessary to prevent an unacceptable loss of wilderness resources or to protect resources outside the wilderness. Do necessary revegetation work with plant species native to the wilderness area.

Recreation

- 1A-020 Wilderness areas are managed for the Primitive Recreation Opportunity although actual ROS classes range from Semi-Primitive Non-Motorized (SPNM), to Semi-Primitive 2 (SP2). See ROS Map.
- 1A-021 Construct, relocate, and maintain trails to the minimum standard necessary for protection of the soil, water, vegetation, visual quality, user safety, and long-term maintenance. Emphasize trails that appear to be part of the wilderness environment and not an intrusion upon it.
- 1A-022 Blazing of trails is allowed only on the Appalachian Trail.
- 1A-023 Use of hand-held power tools, like chainsaws, to reopen trails following catastrophic natural events may be authorized by the Regional Forester.
- 1A-024 Minimize use of trail bridges or foot logs. Bridges are not installed for user convenience. Construct bridges if necessary for wilderness resource protection or for safety reasons. Design bridges to minimize impact on the wilderness resource. Select locations that minimize the size and complexity of the structure.
- 1A-025 Provide the minimum number of signs for the regulation or information of the user and the protection of the wilderness resource. Do not include distances to destination points on trail signs or directional arrows within the wilderness. Encourage use of trail maps.

- 1A-026 Groups entering the wilderness will not exceed 10 persons.

**1A DESIGNATED
WILDERNESS****Appalachian Trail**

- 1A-027 Plan and carry out activities in cooperation with appropriate Appalachian Trail management partners.
- 1A-028 Horse and pack stock are prohibited on the Appalachian Trail footpath.
- 1A-029 Existing Appalachian Trail shelters and associated facilities may be maintained. When existing trail shelters deteriorate to the point that they must be replaced or reconstructed, analyze the shelter location. When possible, relocate shelters to appropriate sites outside of wilderness.

Scenery

- 1A-030 Management activities such as trail construction, maintenance, and signing are designed to meet or exceed a very high scenic integrity objective.
- 1A-031 Non-historical remnants such as old railroad ties and culverts causing unacceptable visual impact are removed.

Range

- 1A-032 Livestock grazing is not permitted unless specifically authorized in the designating legislation.

Minerals

- 1A-033 These areas are withdrawn from Federal oil and gas and other Federal mineral leases. Allow existing Federal leases to continue until expiration. Do not reauthorize. Allow roads, pipelines, utilities, and other facilities per existing Federal leases.
- 1A-034 These areas are not available for mineral materials for commercial, personal, or free use purposes. Administrative use of mineral materials is allowed when: a) the materials are used within the wilderness itself; and b) use is necessary to protect the wilderness resource.
- 1A-035 Requests for access to a non-Federal interest in lands pursuant to a reserved or outstanding right are recognized, and reasonable access is granted. Encourage such interests to minimize surface disturbances when possible. (See also standards under Lands).

Roads

- 1A-036 Do not permit road construction and reconstruction, subject to valid existing rights or leases.
- 1A-037 Favor natural revegetation of closed roads. Plant with native species only if the area is not expected to revegetate naturally in a reasonable time.

Lands and Special Uses

- 1A-038 Within Mountain Lake Wilderness, provide adequate access to private land owner(s), and their successors in interest. Pursue the purchase or exchange of these tracts. Within one year of acquisition of the private tracts within Mountain Lake Wilderness and associated road right-of-way, motorized equipment may be used to remove structures, restore the area, and decommission the road.
- 1A-039 Wilderness areas are not available for new special uses, except for research and outfitter-guide operations allowed under the Wilderness Act. Phase out existing non-conforming uses.

1A DESIGNATED WILDERNESS

1A-040 Allow commercial use by outfitters and guides if compatible with preservation of the wilderness values. Do not allow contest events such as foot races or horseback endurance events. Require outfitters and guides to use leave-no-trace techniques. Do not allow permanent camps.

1B RECOMMENDED WILDERNESS

1A-041 Limit the size of commercial and organized groups to 10.

Research and Monitoring

1A-042 Evaluate research proposals and scientific studies for which use of a wilderness is essential. Allow research that is compatible with wilderness management objectives.

1A-043 Allow collection of specimen plants for research with Forest Supervisor authorization.

Law Enforcement and Search and Rescue

1A-044 The county or counties where the wilderness areas are located have the responsibility for search and rescue of lost or injured visitors. Forest personnel will provide assistance when requested for such things as scouting services, detailed maps, aerial photography, and detailed information about the area.

1A-045 Require Forest Supervisor approval for motorized equipment for search-and-rescue and law enforcement operations within the wilderness area in advance. Use of motorized equipment is limited to emergencies involving inescapable urgency such as: (a) health and safety, (b) law enforcement involving serious crimes or fugitive pursuit, (c) removal of deceased persons, and (d) aircraft accident investigation.

1B RECOMMENDED WILDERNESS STUDY AREA

Areas on the Jefferson National Forest recommended to Congress for wilderness study include: Little Wolf Creek, Garden Mountain, Cave Springs, Little Wilson Creek Wilderness Addition A and B, Stone Mountain (addition to Little Wilson Creek Wilderness), Helton Creek (addition to Lewis Fork Wilderness), Kimberling Creek Wilderness Additions A and B, Peters Mountain Wilderness Additions A, Mountain Lake Wilderness Additions A, B, and C, Shawvers Run Wilderness Addition, and James River Face Wilderness Addition. These areas total 25,200 acres (3%) across the Jefferson National Forest.

EMPHASIS:

These areas are managed to protect their wilderness characteristics pending legislation as to their classification and provide for existing uses where compatible with protecting wilderness character.

DESIRED CONDITION:

The desired condition for the wilderness resources and recreation opportunities in this area is the same as described in 1A above. Removal and restoration of human influences may occur. Purchase of reserved and outstanding mineral rights is in process. Timber harvest is not appropriate within this prescription area. This type of management is to continue until Congress decides whether to include the area in the national wilderness preservation system.

STANDARDS**1B
RECOMMENDED
WILDERNESS****General**

- 1B-001 These areas are managed as wilderness pending final Congressional action. Standards for 1A apply except where otherwise noted below. In 1B, the Forest Supervisor approves items requiring Regional Forester approval in 1A
- 1B-002 Allow motorized equipment for needed restoration work prior to congressional designation as wilderness.

Timber Management

- 1B-003 These areas are classified as unsuitable for timber production, pending final Congressional action. Timber harvest is not appropriate.

Wildland Fire Suppression

- 1B-004 Allow rehabilitation of firelines and the burned area to prevent an unacceptable loss of future wilderness resources or to protect resources outside the area. Do necessary revegetation work with plant species native to the wilderness area. Evidence of firelines is obliterated as soon as practicable.

Prescribed Fire and Wildland Fire Use

- 1B-005 Management-ignited prescribed fire and wildland fire use are allowed to reduce a buildup of fuels, to restore native forest communities, to maintain threatened, endangered, sensitive, and locally rare species habitat, and to decrease the risks and consequences of wildland fire escaping from the area.
- 1B-006 Allow rehabilitation of firelines and the burned area to prevent an unacceptable loss of future wilderness resources or to protect resources outside the area. Do necessary revegetation work with plant species native to the wilderness area. Evidence of firelines is obliterated as soon as practicable.

Recreation

- 1B-007 Decommission facilities that are not compatible with a wilderness environment.

Minerals

- 1B-008 These areas are administratively unavailable for federal oil and gas and other federal mineral leases, pending final Congressional action. Allow existing Federal leases to continue until expiration. Do not reauthorize. Allow roads, pipelines, utilities, and other facilities per existing Federal leases.
- 1B-009 These areas are not available for mineral materials for commercial, personal, or free use purposes. Administrative use of mineral materials is allowed.
- 1B-010 Requests for access to a non-Federal interest in lands pursuant to a reserved or outstanding right are recognized, and reasonable access is granted.

Roads

- 1B-011 Do not permit road construction and reconstruction, subject to valid existing rights or leases.
- 1B-012 Decommission all roads. Motorized equipment use is allowed to decommission roads. Prior to decommissioning, manage all roads as closed.

**2C1 ELIGIBLE
WILD RIVERS****2C1 ELIGIBLE WILD RIVERS**

Three miles of Roaring Branch on the Clinch Ranger District were identified as eligible to be considered for designation as part of the National Wild and Scenic Rivers System. This management prescription contains approximately 900 acres (< 1%). Roaring Branch has private subsurface mineral rights. The outstandingly remarkable values of this eligible river will be protected to the extent possible; however, these private mineral rights are acknowledged and reasonable access to develop these rights are granted.

EMPHASIS:

The primary emphasis along Roaring Branch and its associated corridor is to protect and enhance the outstandingly remarkable scenic and geologic values as well as perpetuating the undeveloped setting and non-motorized access that led to the "wild" classification, subject to valid rights. Roaring Branch will be preserved in a free-flowing condition for the benefit, use, and enjoyment of present and future generations.

DESIRED CONDITION:

Roaring Branch represents vestiges of primitive America. The surrounding corridor is an excellent example of how bedrock structure and geologic processes can control the development of a stream and the landscape of a watershed. The headwaters of Roaring Branch falls rapidly through a gorge with steep rock faces and old growth hemlock with a rhododendron understory.

These areas retain a natural evolving landscape character shaped primarily by natural processes, although the Roaring Branch trail has a historic/cultural landscape character due to the Civilian Conservation Corps trail work. These landscapes feature a structurally diverse older aged forest community with a continuous forested canopy, broken only by the linear swath of the river. Understory plants, particularly rhododendron and edge-favoring, small flowering trees such as silverbell, dogwood and redbud, provide a lush vegetative understory visible from the river and trail. The valued character of these landscapes is intact with no deviations.

Natural processes maintain the large patch of old growth forest currently dominated by shade tolerant hemlocks. Insects and diseases, primarily hemlock woolly adelgid, play a major role in shaping future species composition and successional stages. Non-native vegetation occurs only as transients and is not self-perpetuating. Cavity trees, cull trees, standing dead trees, and down logs are common as a result of natural mortality.

Recreation management is designed to provide solitude and remoteness in the most primitive and natural recreation setting possible. To this end, access to the area is limited to roads outside of the corridor, except reasonable access necessary to exercise development of private mineral rights. Trailheads at perimeter roads are designed with sensitivity to scale and character to set the tone for a primitive experience. Motorized recreation and mountain bikes are not compatible in this area. Wild river corridor recreation includes inherent risks. Visitors are isolated from the sights and sounds of others and encounters with other visitors are rare.

The majority of this prescription area is managed as semi-primitive non-motorized. Once in the designated wild river corridor, visitors hiking or fishing must rely, to varying degrees, on their own personal physical abilities and primitive recreation skills. The Stone Mountain Trail will continue as the only access to this area and is maintained to accommodate use and access while protecting the resources and values of Roaring Branch. Signs are designed to complement the natural environment in scale, character, and color. Most visitor information is provided outside of the wild river corridor at

trailheads and through off-site public information and education efforts. Wild river visitors are encouraged to "pack-it-in and pack-it-out" and to "leave no trace."

2C1 ELIGIBLE
WILD RIVERS

Commercial timber harvest is not appropriate within this prescription area. Wildland fires may be used to restore and maintain the historic fire regime. Integrated pest management favoring biological controls may be used to eradicate or suppress non-native invasive pests. Non-commercial felling of trees may be used to construct and maintain trails.

Roaring Branch is underlain by private mineral rights. At some point in the future, it is possible that roads, wells, and other necessary infrastructure associated with these rights may be observed within the area if reasonable access cannot be provided outside of this prescription area.

STANDARDS

General

- 2C1-001 Travel in this river corridors is non-motorized only, except in emergency situations or to access valid existing rights or leases. All such uses require advance approval. Chainsaw use for trail maintenance is allowed.
- 2C1-002 All management activities within this corridor must be compatible with the outstandingly remarkable values for the River.

Water, Soil, and Air

- 2C1-003 Maintain soils in a natural undisturbed state, except for approved watershed restoration projects, wildland fire control measures, campsite rehabilitation, and trail construction, use, and maintenance. Favor natural healing of disturbed sites.
- 2C1-004 Instrumentation necessary for monitoring reference watershed conditions is allowed. Such instrumentation is designed to be unnoticeable to visitors.
- 2C1-005 Evaluate existing soil or water structural improvements to determine if continued use is compatible with outstandingly remarkable values. If compatible, schedule maintenance needs and methods. If incompatible allow to deteriorate naturally.
- 2C1-006 Allow mitigation for acid rain and other pollution effects and evaluate on a case-by-case basis with Forest Supervisor approval.

Terrestrial and Aquatic Species

- 2C1-007 Existing old fields, wildlife openings, and other habitat improvements for fish and wildlife are not maintained, and succeed to forest, deteriorate over time, or are removed. New permanent wildlife openings are not created.
- 2C1-008 Allow stocking only to reestablish or maintain indigenous, threatened, endangered, or sensitive species with Forest Supervisor authorization.

Rare Communities and Old Growth

- 2C1-009 Rare communities are maintained through natural processes, with the exception of appropriate management associated with threatened, endangered, sensitive, or locally rare species.
- 2C1-010 A large patch of inventoried old growth exists within this corridor and is maintained primarily by natural processes. Integrated pest management to control hemlock woolly adelgid within this patch is allowed.

**2C1 ELIGIBLE
WILD RIVERS**
Vegetation and Forest Health

- 2C1-011 Suppression, eradication, and Slow the Spread actions to control **gypsy moth** infestations are allowed.
- 2C1-012 Actions to eradicate or suppress **hemlock woolly adelgid** infestations are allowed.
- 2C1-013 Eradicate non-native invasive plants when the infestations are isolated. Use hand-applied chemicals, with Forest Supervisor approval, when necessary.
- 2C1-014 Felling and leaving of individual trees is allowed for public safety and trail maintenance within appropriate trail clearing limits.

Timber Management

- 2C1-015 These lands are classified as unsuitable for timber production. Timber harvest is not allowed unless associated with reasonable access to valid existing rights.

Non-timber Forest Products

- 2C1-016 Do not issue authorizations for the commercial or personal use of any forest products.

Wildland Fire Suppression

- 2C1-017 Use suppression methods and equipment that cause the least alteration of the outstandingly remarkable values, least disturbance of the land surface, least disturbance to visitors, least reduction of visibility during periods of visitor use, and least effects on air-quality-related values.
- 2C1-018 Tractor-plow units or bulldozers are allowed, with Forest Supervisor approval, only on fires with an imminent threat to life or private property that cannot be controlled by other means. Evidence of such use is obliterated as soon as practicable.

Prescribed Fire and Wildland Fire Use

- 2C1-019 Management-ignited prescribed fire is allowed to reduce a buildup of fuels to an acceptable level and to decrease the risks and consequences of wildland fire escaping from the river corridor. Prescribed fire can also be used for control of non-native pests and to create, enhance or maintain threatened, endangered, sensitive and locally rare species habitat necessary to perpetuate these flora or fauna.
- 2C1-020 With an approved fire plan, wildland fire use is allowed to permit lightning-caused fires to play, as nearly as possible, their natural ecological role.
- 2C1-021 Do necessary revegetation work with plant species native to the river corridor.

Recreation

- 2C1-022 Eligible Wild River corridors are managed with the most primitive Recreation Opportunity Spectrum (ROS) possible from Semi-Primitive Non-Motorized (SPNM), to Semi-Primitive 2 (SP2). See ROS Map.
- 2C1-023 Restore existing trail including steps and bridges, when necessary, using native materials and Civilian Conservation Corps construction techniques.
- 2C1-024 Provide the minimum number of signs for the regulation or information of the user and the protection of the outstandingly remarkable values. Do not include distances to destination points on trail signs or directional arrows within the river corridor. Encourage use of trail maps.

Scenery

2C1-025 Management activities; such as trail construction, maintenance and signing are designed to meet or exceed a **very high** scenic integrity objective.

**2C1 ELIGIBLE
WILD RIVERS**

Range

2C1-026 Livestock grazing is not permitted.

**2C3 ELIGIBLE
RECREATIONAL
RIVERS**

Minerals

2C1-027 The entire Roaring Branch watershed is underlain by private mineral rights. Requests for access to a non-Federal interest in lands pursuant to a reserved or outstanding right are recognized, and reasonable access is granted. Encourage such interests to minimize surface disturbances when possible. (See also standards under Lands).

2C1-028 These areas are not available for mineral materials for commercial, personal use, or free use purposes. Administrative use of mineral materials is allowed when: a) the materials are used within the river corridor itself; and b) use is necessary to protect the outstandingly remarkable values of the river.

Roads

2C1-029 Do not permit road construction and reconstruction, subject to valid existing rights or leases.

Lands and Special Uses

2C1-030 These corridors are unsuitable for new special uses, except for research and outfitter-guide operations. Phase out existing non-conforming uses.

2C1-031 Allow commercial use by outfitters and guides if compatible with preservation of the outstandingly remarkable values. Do not allow contest events such as foot races or horseback endurance events. Require outfitters and guides to use leave-no-trace techniques. Do not allow permanent camps.

2C1-032 Limit the size of commercial and organized groups to 10.

2C3 ELIGIBLE RECREATIONAL RIVERS

The rivers shown in Table 2-12 were found to be eligible for consideration as potential Wild and Scenic Rivers with a Recreational Classification. Little Stony on the New River Valley Ranger District, the Clinch River, the Guest River, and Little Stony on the Clinch Ranger District are allocated to this management prescription. This management prescription contains approximately 4,400 acres (<1%). The outstandingly remarkable values of all eligible rivers will be protected regardless of their management prescription allocation.

EMPHASIS:

These river segments and their associated corridors are eligible to be a part of the National Wild and Scenic Rivers System. They are managed to protect and perpetuate the outstandingly remarkable values that led to their eligibility status and classification as "recreational."

**2C3 ELIGIBLE
RECREATIONAL
RIVERS****DESIRED CONDITION:**

The primary emphasis for management of the river and river corridor is to protect and enhance the outstandingly remarkable values of that river or river segment. The recreational river corridor provides outstanding opportunities for people to enjoy a wide variety of river oriented recreation opportunities in an attractive setting. The river is readily accessible by roads and may be accessed by railroads as well. Transportation facilities may parallel the river for long stretches.

There is a low need for visitors to rely on their personal physical abilities and primitive recreation skills within these areas. The sights and sounds of other visitors are evident, and opportunities to encounter other visitors are moderate to high. Visitors seeking solitude may find that difficult to achieve, particularly in peak use seasons. Trails may be highly developed, including hardened trails for a high level of accessibility for persons of all abilities. Motorcycles and/or all-terrain vehicles may be permitted on designated trails.

The landscape character ranges from natural appearing to transitional-mixed use. There is substantial evidence of human activity along the shores of these rivers on adjoining private lands, sometimes including modern residential development, commercial structures, and a full range of various agricultural and forestry uses. On National Forest System lands, visitors enjoy a natural-appearing setting with a range of man-made recreational developments. Prescribed fire, felling and removal of trees, domestic livestock grazing, and integrated pest management activities may be observed. Utility transmission corridors, communication facilities, or signs of mineral development activity associated with reserved and outstanding mineral rights may be observed as well as controlled mineral activities under lease and use of mineral materials. The goal is to blend these uses into the background so that they remain visually subordinate to the natural landscape. Existing scenic integrity may range from high to very low, but the objectives on National Forest System lands are moderate or higher.

Since there is the potential for large numbers of visitors at peak use seasons, regulations are necessary for protection of resources and visitors. Information is provided at bulletin boards or kiosks at the river, as well as at off-site Forest Service visitor centers and in brochures. Visitors are encouraged to practice minimum impact techniques while recreating. Trash receptacles may be provided at parking areas and high use areas. Facilities of a modern nature are present to provide for visitor safety and comfort and to protect the river resources. Facilities are designed to fit the character of the specific sites where they are located. This could range from semi-primitive to rural. Facilities might include parking areas, trailheads, bulletin boards, interpretive kiosks, signs, restrooms, canoe/raft launches, fishing platforms, picnic sites, etc.

These areas are characterized by a predominance of mid- and late-successional forests with a high to intermediate tolerance to shade. Forest structure varies according to ecological factors, but largely consists of a mature overstory of hardwoods, occasionally mixed with pines, a fairly open midstory, and a well-developed herbaceous and shrubby understory. Structural diversity within mixed mesophytic and dry-to-mesic oak forest communities may be enhanced through commercial and non-commercial vegetation management activities. Understory vegetation includes a variety of native deciduous and evergreen flowering trees, shrubs and wildflowers. Even- and uneven-aged forest communities are managed throughout the area, along with continued development of medium and small patches of late successional to old growth forest communities. Wildlife viewing opportunities are maintained and expanded and up to four percent of forested land may be in early-successional forest conditions created both naturally and purposefully when compatible with the outstandingly remarkable values of the river corridor. Management activities and controls ensure rare communities and associated species continue to exist in the area.

STANDARDS**2C3 ELIGIBLE
RECREATIONAL
RIVERS****General**

- 2C3-001 All management activities within this corridor must be compatible with the outstandingly remarkable values for the River.

Terrestrial and Aquatic Species

- 2C3-002 Allow creation of up to four percent early-successional forest habitat.
- 2C3-003 Existing old fields, pastoral areas, wildlife openings, and other wildlife habitat improvements may be present and maintained. Expansion of existing openings and/or creation of new openings may occur. Non-invasive non-natives are sometimes used when establishing food plants for wildlife, but native species are preferred. Some openings provide permanent shrub/sapling habitats as a result of longer maintenance cycles.

Rare Communities and Old Growth

- 2C3-004 All large, medium, and small old growth patches are maintained within these corridors.

Vegetation and Forest Health

- 2C3-005 Allow salvage of dead, dying, or damaged trees to maintain or enhance outstandingly remarkable values.
- 2C3-006 Allow vegetation management activities to:
- ▶ Maintain or enhance outstandingly remarkable values of the river corridor;
 - ▶ Enhance or rehabilitate scenery;
 - ▶ Maintain developed recreation facilities, including roads and trails;
 - ▶ Enhance both game and non-game wildlife habitat;
 - ▶ Improve threatened, endangered, sensitive, and locally rare species habitat;
 - ▶ Maintain rare communities and species dependent on disturbance;
 - ▶ Maintain, enhance, or restore the diversity and complexity of native vegetation;
 - ▶ Suppress or control insect and disease outbreaks;
 - ▶ Control non-native invasive vegetation;
 - ▶ Reduce fuel buildups; or
 - ▶ Provide for public health and safety.
- 2C3-007 Aggressively control insect and disease outbreaks when threatening the outstandingly remarkable values of the river corridor or when needed for safety or legal reasons. Consider eradication of recently established non-native pests. Favor the most effective control method.

Timber Management

- 2C3-008 These lands are classified as unsuitable for timber production. Vegetation management may be accomplished with commercial timber sales as an appropriate method of reducing costs associated with these activities.

Wildland Fire Suppression

- 2C3-009 Lightning fires are generally suppressed to minimize acreage burned due to

**2C3 ELIGIBLE
RECREATIONAL
RIVERS**

high levels of public use and infrastructure investments in these corridors.

Prescribed Fire and Wildland Fire Use

2C3-010 Vegetation management may be accomplished with management-ignited prescribed fire and mechanical treatments as an appropriate method of reducing costs associated with these activities.

Recreation

2C3-011 These corridors are unsuitable for designation of new ATV routes or use areas. Allow designated routes for licensed OHVs only.

Scenery

2C3-012 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	H	M	M	M	M	M

Minerals

2C3-013 These corridors are available for federal oil and gas leasing with controlled surface use to protect the outstandingly remarkable resources of the river. Other Federal minerals may be available on a case-by-case basis.

2C3-014 Permit mineral materials for commercial, personal, free, and administrative use purposes with conditions to protect the outstandingly remarkable resources of the river corridor.

2C3-015 Some of these areas are underlain by private mineral rights. Requests for access to a non-Federal interest in lands pursuant to a reserved or outstanding right are recognized, and reasonable access is granted. Encourage such interests to protect outstandingly remarkable values when possible.

Roads

2C3-016 Road construction, reconstruction, and decommissioning are informed by a watershed-scale or site-specific road analysis considering effects on the outstandingly remarkable values.

2C3-017 Allow road construction or reconstruction to improve recreational access, improve soil and water, to salvage timber, or to protect property or public safety.

2C3-018 Decommission roads that are causing environmental damage, degrading outstandingly remarkable values, or to manage visitor use and access.

Lands and Special Uses

2C3-019 These areas are suitable for new utility structures, such as new transmission, gas, or water lines, only in the location with the least impacts to scenic integrity.

2C3-020 Screen overhead utility lines and support towers.

2C3-021 Allow other special uses when consistent and compatible with protection of the outstandingly remarkable values of the river corridor.

4A APPALACHIAN NATIONAL SCENIC TRAIL CORRIDOR

4A APPALACHIAN TRAIL

Additional management direction for management of the Appalachian Trail corridor can be found in: *National Trails System Act (Public Law 90-543, as amended)*; *Appalachian Trail Comprehensive Plan*; *Landscape Aesthetics (Agriculture Handbook 701)*; *Forest Service Directives (FSM, FSH, and supplements)*; *Appalachian Trail Design, Construction, and Maintenance (ATC Stewardship Manual, second edition, 2000)*; *Appalachian Trail Overnight-Use Management Principles*; *Checklist for the Location, Construction, and Maintenance of Campsites and Shelters on the Appalachian Trail (ATC Stewardship Series, revised 1989)*; *Local Management Plans for the Appalachian Trail*; *Wilderness Act of 1964*; *Eastern Wilderness Act of 1975*; *Virginia Wilderness Acts*; *Numerous Memoranda of Agreement and Memoranda of Understanding between the USDA Forest Service, the National Park Service.*

This prescription area consists of those lands mapped as the foreground area visible from the Appalachian National Scenic Trail¹ footpath, and—as designated on a case-by-case basis—associated trail shelters, overnight use sites, viewpoints, water sources and spur trails. The entire Appalachian Trail corridor encompasses approximately 63,000 acres (9%) on the Jefferson National Forest. Approximately 30,700 acres are found in this prescription area. The remainder is within wilderness (about 7,000 acres), recommended wilderness study (about 3,100 acres), backcountry (about 9,600 acres), special areas (about 8,200 acres), old growth (about 1,100 acres), special biological areas and rare communities (about 1,000 acres), the Lynn Camp Creek Aquatic Habitat Area (about 1,200 acres), pastoral/field/orchard areas (about 600 acres), and recreation/administrative/special use sites (about 300 acres). Approximately 320 miles of the Appalachian Trail and 32 associated shelters and designated overnight-use sites lie within the Forest on the Glenwood, New Castle, and New River Valley Ranger Districts, as well as the Mount Rogers National Recreation Area. This prescription area also includes all National Forest System lands acquired by the National Park Service for the Appalachian Trail and administratively transferred to the USDA Forest Service by the National Park Service under a Memorandum of Agreement.

¹ Also referred to as the Appalachian Trail throughout this document.

The Appalachian National Scenic Trail is administered by the Secretary of the Interior in consultation with the Secretary of Agriculture, and is managed as a partnership between the Forest Service, the National Park Service Appalachian Trail Park Office, the Appalachian Trail Conference, and Appalachian Trail Conference-affiliated local Appalachian Trail clubs. Management is in accordance with the National Trails System Act and the Appalachian Trail Comprehensive Plan utilizing the cooperative management system.

EMPHASIS:

Management practices are designed to protect the Appalachian Trail experience, preserve and strengthen the role of volunteers and volunteer organizations, provide opportunities for high quality outdoor recreation experiences, and provide for the conservation and enjoyment of the nationally significant scenic, historic, natural and cultural qualities of the land through which the Trail passes. Lands adjoining the prescription area seen from the Appalachian Trail will be managed for multiple use under the provisions of this plan, in a manner which will reasonably harmonize with and be complementary to the Appalachian Trail experience.

DESIRED CONDITION:

The Appalachian Trail is a way, continuous from Katahdin in Maine to Springer Mountain, Georgia, traversing the Jefferson National Forest for travel on foot through the wild, scenic, wooded, pastoral, and culturally significant lands of the Appalachian Mountains. The Appalachian Trail is usually a simple footpath, purposeful in direction and concept, favoring the heights of land, and located for minimum reliance on construction for protecting the resource. The body of the Trail is provided by the lands it traverses, and its soul is in the living stewardship of the volunteers and workers of the Appalachian Trail community.

4A APPALACHIAN TRAIL

Views from the Appalachian Trail are predominantly forested, sporadically intermixed with meadows, old fields, pastoral valleys, and cultural landscapes. Occasionally, the Appalachian Trail traverses high elevation balds and openings, which afford hikers unique and outstanding views. The Appalachian Trail offers a diversity of topography and a variety of vegetation and animal life exposing the hiker to the entire range of land forms, water features, history, and uses of the land that are found along the Appalachian Mountains.

The prescription area consists of those lands mapped as foreground from the Appalachian Trail footpath and designated viewpoints, shelters, campsites, water sources, and spur trails linking these features, utilizing the Scenery Management System. The prescription area has a minimum width of 100 feet on either side of the Appalachian Trail footpath for protection from social, aural, and other impacts, but this minimum width should be considered only when the foreground zone does not extend beyond 100 feet on either side of the Appalachian Trail footpath.

Facilities include the Appalachian Trail footpath itself, shelters approximately one day's hike apart, designated overnight-use sites, privies, trailhead parking areas, and information boards at road crossings. The footpath itself wears lightly on the land, and is designed, constructed, and maintained for foot travel only, with the exception of where the Trail is coincident with the Virginia Creeper National Recreation Trail on the Mount Rogers National Recreation Area. Associated structures are in harmony with the surrounding environment.

This prescription area traverses a range of Recreation Opportunity Spectrum classes. Management of the Appalachian Trail setting will either be consistent with or complement the semi-primitive non-motorized Recreation Opportunity Spectrum class. The linear nature of this prescription area is recognized in determining the Recreation Opportunity Spectrum class.

Recreation management is designed to provide a variety of opportunities in the most primitive and natural recreation setting possible. Careful acquisition and trail design has allowed an appearance of a more primitive setting than the Recreation Opportunity Spectrum would predict. Trailheads are designed with sensitivity to scale and character to set the tone for a non-motorized experience. Motorized recreation, bicycles, horses, and pack stock are not allowed on the Appalachian Trail footpath, although there are some rare exceptions (see Standards). Roads within ½ mile of the Appalachian Trail are managed with hiker security, safety, and Appalachian Trail values in mind.

Roads, utility transmission corridors, communication facilities, or signs of mineral development activity exist or may be seen within the prescription area, although the goal is to avoid these types of facilities and land uses to the greatest extent possible and blend facilities which cannot be avoided into the landscape so that they remain visually subordinate.

This prescription area retains a natural, forested or pastoral landscape character shaped by both natural processes and humans. Management practices are modified to recognize the nationally significant aesthetic and recreational values of these lands. Low intensity vegetation management is appropriate to maintain the long term goals and stewardship objectives of the Appalachian National Scenic Trail prescription area. Management activities needed to preserve or create vistas and desirable open areas are a high priority. Activities are planned and carried out in cooperation with appropriate Appalachian Trail management partners.

This prescription area is characterized by a predominance of mid- and late-successional forests with multiple canopy layers, which provide a variety of habitat niches, and thermal and protective cover for wildlife. Small to medium patches of old growth forest communities continue to develop throughout this area. Existing levels of early

successional habitat conditions are maintained including: meadows, old fields, and openings created by flooding, wind damage, wildland fire, insect/disease infestations, or vegetation management activities. Occasional large openings of early successional habitat may be maintained as old fields and pastoral landscapes, as well as created through natural disturbance.

4A APPALACHIAN TRAIL

In addition to this prescription area, the Appalachian Trail also passes through prescriptions 1A, 1B, 4D, 4E, 4K1, 4K3, 4K4, 4K5, 5A, 5B, 5C, 6A, 6B, 6C, 7D, 7G, 8E2, 8E6, 9A4, 9F, 9H, 12B, and 12C. Refer to those prescriptions for Desired Conditions and standard for Appalachian Trail management.

OBJECTIVES

- 4A-OBJ1 Maintain an Agreement for Sponsored Voluntary Services between each Ranger District and partner Appalachian Trail Club.

STANDARDS

Terrestrial and Aquatic Species

- 4A-001 Maintain the existing early-successional forest habitat within this prescription area when compatible with Appalachian Trail values. Take advantage of natural disturbance events and continued maintenance of existing openings to meet the needs for early successional habitats.
- 4A-002 To enhance the Appalachian Trail environment, wildlife and fish habitat improvements are allowed. Existing wildlife openings, pastoral areas, or old fields may be maintained. Expansion of existing openings and/or creation of new openings may occur when compatible with Appalachian Trail values. Maintenance methods may include cultivation, grazing, herbicides, mowing, and burning. Use of native species will be emphasized.

Threatened, Endangered, and Sensitive Species

- 4A-003 Within the Peaks of Otter salamander habitat conservation area, activities in the Appalachian Trail corridor must comply with the Habitat Conservation Agreement for Peaks of Otter salamander. See Management Prescription 8E2 for Peaks of Otter salamander habitat conservation area management direction.

Vegetation and Forest Health

- 4A-004 Vegetation is managed only to enhance the Trail environment. Allow timber harvest, prescribed burning, wildland fire use, hand tools, power tools, mowing, herbicides, biological controls, and grazing to manage vegetation as appropriate. Vegetation management activities are limited to:
- ▶ Maintain open areas, old field habitats, and vistas that enhance the scenic qualities of the Appalachian Trail;
 - ▶ Control insects and diseases;
 - ▶ Maintain or improve threatened, endangered, sensitive, and locally rare species habitat;
 - ▶ Maintain rare communities, species dependent on disturbance, and wildlife viewing opportunities;
 - ▶ Meet trail construction and maintenance needs, including shelters;
 - ▶ Manage fuels;
 - ▶ Restore, enhance, or mimic historic fire regimes;

**4A APPALACHIAN
TRAIL**

- ▶ Control non-native invasive vegetation;
- ▶ Provide for public safety or resource protection.

Timber Management

- 4A-005 The lands in this prescription area are classified as unsuitable for timber production.
- 4A-006 Hauling or skidding along the Appalachian Trail footpath itself or using the Appalachian Trail for landings or temporary roads is prohibited. Hauling and skidding within the prescription area will be allowed only if the environmental analysis indicates that this is the only feasible and prudent alternative.

Wildland Fire Management

- 4A-007 Suppression strategies will strive to minimize impact on Appalachian Trail values.
- 4A-008 Prohibit heavy equipment line construction on the Appalachian Trail footpath, unless necessary for emergency protection of public property and safety.
- 4A-009 Implement restorative measures in areas damaged by fire-suppression efforts after fire-suppression efforts have ceased.

Prescribed Fire and Wildland Fire Use

- 4A-010 Prohibit heavy equipment line construction on the Appalachian Trail footpath.
- 4A-011 Implement needed restorative measures after prescribed fire or wildland fire use projects.

Recreation

- 4A-012 Motorized, horse, pack stock, and bicycle use on the Appalachian Trail are prohibited. Exceptions include where the Appalachian Trail crosses or is located on open Forest Service system roads; other federal, state, county or other public roads; or as authorized where the Appalachian Trail is coincident with the Virginia Creeper National Recreation Trail; or as needed for management of the Appalachian Trail; or for administrative or emergency purposes.
- 4A-013 Other uses within the prescription area, including crossings of the Appalachian Trail, may be considered following coordination with appropriate Appalachian Trail partners. Locate authorized uses crossing the Appalachian Trail to minimize impacts to the Appalachian Trail environment, preferably where impacts already exist.
- 4A-014 Overnight camping will be allowed, unless prohibited by Forest Supervisor's order.
- 4A-015 Identify the Appalachian Trail through standard signs and blazes.
- 4A-016 Locate and maintain shelters, campsites, and privies where there is a demonstrated need for overnight use.
- 4A-017 Reconstruct or relocate existing portions of the Appalachian Trail as needed to enhance the recreation experience, protect threatened, endangered, sensitive, and locally rare species; protect the health of the ecosystem; or protect heritage resources. Such relocations provide a reasonable level of public safety.
- 4A-018 Limit additional development to facilities compatible with the Appalachian Trail.
- 4A-019 This area is unsuitable for designation of new OHV routes or ATV use areas.

4A APPALACHIAN
TRAIL**Scenery**

- 4A-020 All management activities will meet or exceed a Scenic Integrity Objective of High.

Minerals

- 4A-021 The prescription area is available for oil and gas leasing with a "no surface occupancy" stipulation. The area is not available for other Federal leasable minerals. When existing leases terminate or expire, new leases are changed to reflect this standard.
- 4A-022 These areas are not available for mineral materials.

Roads

- 4A-023 Authorize new roads within the Appalachian Trail prescription area only if entering the prescription area is the only feasible and prudent location.

Lands and Special Uses

- 4A-024 Issue non-recreational special-use authorizations only where compatible with Appalachian Trail management or where there is a demonstrated public need or benefit and where no other reasonable alternatives exist.

- 4A-025 Authorize recreational special uses only when they do not adversely affect Appalachian Trail values and resources as described by this management prescription. Limit recreation events such as foot races or horseback endurance events to designated crossings only, except where coincident with the Virginia Creeper National Recreation Trail. Only temporary authorizations of one year or less for use of the footpath are allowed due to the probability of changing trail conditions or management needs except for existing permits. Existing permits may be renewed when there is no proposed change in use, or changes in trail conditions or management needs. Permits will not be issued for overnight camping at Appalachian Trail shelters or within 300 feet of the footpath.

- 4A-026 Do not authorize vendor or peddler permits.

- 4A-027 Allow agricultural special-use authorizations to maintain open and pastoral spaces.

- 4A-028 Locate new public utilities and rights-of-way in areas of this management prescription area where major impacts already exist. Limit linear utilities and rights-of-way to a single crossing of the prescription area, per project.

- 4A-029 Require mitigation measures including screening, feathering, and other visual management techniques to mitigate visual and other impacts of new or upgraded utility rights-of-way. Mitigation measures apply to facilities as well as vegetation.

- 4A-030 This management prescription area is unsuitable for special-use authorizations for new communication sites and wind generation sites.



**4C1 GEOLOGIC
AREAS****4C1 GEOLOGIC AREAS**

Two areas on the Jefferson National Forest are designated as Geologic Areas, the Raven Cliff karst area on the Mount Rogers NRA, and the Russell Fork boulder field area on the Clinch District. This management prescription is allocated to approximately 1,500 acres (< 1%) across the Jefferson National Forest.

EMPHASIS:

Geologic Areas are managed to highlight and protect unique geologic resources as well as to develop public understanding of, and appreciation for, the influence of geology on the ecology and human history. Management focus is on protection in the Raven Cliff area and on showcasing the unique and scenic geologic resources in the Russell Fork area.

DESIRED CONDITION:

Geologic Areas provide outstanding opportunities for people to learn about the natural history of the Forest and to enjoy a wide variety of recreation opportunities in an attractive setting. Safe, barrier-free public access by road and trail is provided and designed to protect sensitive geologic resources. Sensitive karst areas are protected from human-caused detrimental hydrologic and habitat change. Recreational access through these areas may be limited in order to protect geologic resources. Where public access is unrestricted, interpretive information is available to develop understanding of the importance of protecting the geologic and biologic communities of the area.

There is low need for visitors to rely on their personal physical abilities and primitive recreation skills. Education and interpretation are strongly emphasized and school groups are encouraged to visit the sites. The sights and sounds of other visitors are evident and opportunities to encounter other visitors are moderate to high. Visitors seeking solitude may find that difficult to achieve, particularly in peak use seasons. Trails may be highly developed, including hardened trails and boardwalks to protect the resource and to provide for a high level of accessibility for persons of all abilities. Mountain biking, horseback riding, and dispersed camping are confined to designated trails and areas. Other appropriate recreational activities include hiking, bird watching, photography, hunting and fishing.

Visitors enjoy a natural appearing landscape character with outstanding or interesting geologic formations. Landscapes feature a structurally diverse older aged forest community with a continuous forested canopy, with the exception of occasional gaps created by high water tables, sinkholes, storms, insects, diseases, or fire. Infrequent pastoral and historic/cultural enclaves may also exist. Road corridor improvements and interpretive facilities are evident changes to the natural environment but these man-made alterations fit well with the character of the surrounding landscape. Commercial timber harvest is not appropriate within this prescription area. Prescribed fire, use of wildland fire, integrated pest management, and felling of trees may be used to manage vegetation. Other management activities are not evident to the average visitor and the valued character of these landscapes appears intact with no noticeable deviations.

Since there is the potential for large numbers of visitors at peak use seasons, regulations are necessary for protection of resources and visitors. Information is provided at bulletin boards or kiosks, as well as at Forest Service visitor's centers and in brochures. Visitors are encouraged to practice minimum impact techniques while recreating. Trash receptacles may be provided at parking areas and high use areas. Facilities of a modern nature, located outside of sensitive karst areas, are present to provide for visitor safety and comfort and to protect resources. Facilities are designed with sensitivity to character, scale, and color, which complement the surroundings at each specific site. This could range from semi-primitive to rural. Facilities might include parking areas, trailheads,

bulletin boards, interpretive kiosks, signs, restrooms, canoe/raft launches, fishing platforms, picnic sites, etc.

4C1 GEOLOGIC AREAS

Natural processes will eventually result in a large patch late successional to old growth forest matrix dominated by shade tolerant hardwoods and eastern white pines throughout most of this area. Rare communities and associated species will continue to exist in the area. Insects and diseases play a major role in shaping future species composition and successional stages across these areas, however, integrated pest management favoring biological controls may be used to eradicate or suppress non-native invasive pests. Non-native vegetation occurs only as transients and is not self-perpetuating. Cavity trees, cull trees, standing dead trees, and down logs are common throughout the area as a result of natural mortality.

STANDARDS

Water, Soil, and Air

- 4C1-001 Protect sensitive karst areas from human-caused detrimental hydrologic and habitat change.

Terrestrial and Aquatic Species

- 4C1-002 Existing old fields, wildlife openings, and other habitat improvements for fish and wildlife may be present and maintained, but no expansion of openings or creation of new permanent openings of this type occurs. Native species are emphasized when establishing food plants for wildlife. Some openings provide permanent shrub/sapling habitat as a result of longer maintenance cycles.

Vegetation and Forest Health

- 4C1-003 Native forest insect and disease outbreaks are controlled only to prevent unacceptable damage to resources on adjacent land or to protect threatened, endangered, and sensitive species. Non-native invasive insects and diseases may be eradicated or suppressed. Favor biological control methods.
- 4C1-004 Eradicate non-native invasive vegetation when the infestations are isolated. Use hand-applied chemicals, with Forest Supervisor approval, when necessary.
- 4C1-005 Prescribed fire, use of wildland fire, integrated pest management, and felling of trees are allowed to
- ▶ provide for public health and safety;
 - ▶ maintain developed recreation facilities, including roads and trails;
 - ▶ maintain rare communities and species dependent on disturbance;
 - ▶ reduce fuel buildups; or
 - ▶ control non-native invasive vegetation.

Timber Management

- 4C1-006 These lands are classified as unsuitable for timber production. Timber harvest is not allowed unless associated with salvage or reasonable access to valid existing rights.
- 4C1-007 Salvage of dead and dying trees is only allowed when there is a threat to health and safety or ecological resources.

4C1 GEOLOGIC AREAS

Prescribed Fire and Wildland Fire Use

4C1-008 Conduct prescribed fire and wildland fire activities recognizing sensitive geologic conditions in karst areas, including ground water.

Non-timber Forest Products

4C1-009 Do not permit the collection of non-timber forest products, except for scientific purposes as permitted by the Forest Supervisor.

Recreation

4C1-010 Recreational access through these areas may be restricted in order to protect geologic resources.

4C1-011 These areas are unsuitable for designation of new OHV/ATV routes or use areas.

Scenery

4C1-012 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	H	H	H	H	H	H

Minerals

4C1-013 These areas are available for federal oil and gas leasing with controlled surface use to protect the geologic resources and ecological values of the area. Other Federal minerals may be available on a case-by-case basis after full consideration of effects on geologic resources and ecological values.

4C1-014 These areas are not available for mineral materials for commercial, personal, or free use purposes. Administrative use of mineral materials is allowed to (a) administer the area; (b) protect geologic resources and ecological values; (c) restore riparian areas and aquatic habitat; (d) control erosion and sedimentation; or (e) repair flood damage.

4C1-015 Federal oil and gas leases and private mineral rights exist in the Russell Fork boulder area. Roads, wells, and other necessary infrastructure associated with these leases and rights are allowed. Existing lease stipulations are used to minimize surface disturbances in this area. Requests for access to a non-Federal interest in lands pursuant to a reserved or outstanding right are recognized and reasonable access is granted. Encourage such interests to avoid rare communities and minimize surface disturbances.

Roads

4C1-016 Do not permit road construction, subject to valid existing rights and leases.

4C1-017 Road reconstruction and minor relocation are permitted after full consideration of effects on geologic resources and ecological values.

Lands and Special Uses

4C1-018 Locate new public utilities and rights-of-way to areas of this prescription area where major impacts already exist. Limit linear utilities and rights-of-way to a single crossing of the prescription area, per project.

4C1-019 Require mitigation measures including screening, feathering, and other visual management techniques to mitigate visual and other impacts of new

or upgraded utility rights-of-way. Mitigation measures apply to facilities as well as vegetation.

4C1 GEOLOGIC AREAS

4D BOTANICAL - ZOOLOGICAL AREAS

4D BOTANICAL/ ZOOLOGICAL AREAS

This management prescription is allocated to approximately 4,700 acres (1%) across the Jefferson National Forest (see Table 3-1). These lands contain individual threatened, endangered, sensitive, and locally rare plant or animal communities found within major forest communities, not within a rare community. Rare communities are managed according to Prescription 9F. As new special biological areas are found, they will be added to prescription 4D through the Forest Plan amendment process.

Table 3-1. Special Biological Areas

Big Branch	Keokee Lake (small whorled pogonia)
Brush Mountain (piratebush)	Little Mountain (small whorled pogonia)
Butler Tract	Little Stone Mountain (various species)
Cressy Creek (Virginia round-leaf birch)	Lost Mountain (mountain rattlesnake root)
Dragon's Tooth (piratebush)	McFalls Creek (nodding pogonia)
Guest River Gorge (Virginia spirea)	Pound River (Virginia spirea)
High Knob (magnolia warbler)	Straight Fork (magnolia warbler)

EMPHASIS:

These lands serve as a network of core areas for conservation of significant elements of biological diversity. The goal of designation and management of these areas is to perpetuate or increase existing individual plant or animal species and communities that are of national, regional, or state significance and identified as threatened, endangered, sensitive, or locally rare.

DESIRED CONDITION:

Botanical-Zoological areas are managed for the following: (1) protection of threatened, endangered, sensitive, or locally rare species from human taking or human-caused detrimental habitat changes; (2) stable or increasing populations of threatened, endangered, sensitive, or locally rare species; and (3) functioning ecosystems.

The natural evolving or natural appearing landscape character of these areas exhibits a variety of forested and non-forested communities frequently associated with disturbance like fire. Late successional to old growth forest communities may exist in some of these areas and additional acres will develop in future years. Ideally, natural processes within these areas proceed unencumbered; however, in some cases, the prevailing environmental conditions have changed so as to prevent, or at least hinder, natural processes. Examples of these conditions include fire suppression, adjacent human development, and influx of non-native species.

Prescribed fire, wildlife habitat improvements, domestic livestock grazing, integrated pest management, and occasional low intensity timber harvest are appropriate management tools to maintain the long-term goals of the desired condition in these areas related to the improvement of threatened, endangered, sensitive, and locally rare species habitat. Specific management activities necessary to maintain, restore, or enhance threatened, endangered, sensitive, and locally rare species for each special biological area are described in the Virginia Department of Conservation and Recreation, Division of Natural Heritage, Reports of Special Biological Areas and other pertinent biological reference material.

These management activities will result in a forest successional stage appropriate for

**4D BOTANICAL/
ZOOLOGICAL
AREAS**

maintaining the threatened, endangered, sensitive, and locally rare species. All areas are protected from human-caused detrimental habitat change, the taking of threatened or endangered species, and the collection of living plants or animals unless such collections are used for achieving the stated management goals. Recreational access through these areas may be limited in order to protect natural heritage resources. Where public access is unrestricted, interpretive information is available to develop understanding of the importance of protecting the plant and animal communities of the area.

Access to these areas may be limited. New roads are managed as closed. New trail sections to link existing trails or for education and interpretation are considered on a case-by-case basis. Recreation opportunities are limited to interpretation, bird watching, wildlife viewing, nature photography, and hiking on non-motorized, non-mechanized foot trails.

Some of these special biological areas lie within the foreground of the Appalachian National Scenic Trail. Within the foreground of the Appalachian Trail, management practices are designed to achieve the desired condition of this management prescription as well as protect the Appalachian Trail experience, strengthen the role of volunteers and volunteer organizations, provide opportunities for high quality outdoor recreation experiences, and provide for the conservation and enjoyment of the nationally significant scenic, historic, natural and cultural qualities of the land through which the Appalachian Trail passes.

These sites can be nominated for placement on State registries of natural areas. These voluntary agreements recognize the protection and management of natural areas that support rare species and significant natural communities.

OBJECTIVES

- 4D-OBJ1 Based on periodic monitoring of known special biological areas, identify management activities needed to maintain, enhance or restore the habitat of threatened, endangered, sensitive, and locally rare species, and implement an annual program of work designed to meet these needs.

STANDARDS
General

- 4D-001 In cooperation with the States' Natural Heritage agencies, make appropriate adjustments to 4D Special Biological Areas through the Forest Plan amendment process as new information becomes available.

Terrestrial and Aquatic Species

- 4D-002 Wildlife habitat improvements may be created, maintained, or enlarged if compatible with the habitat needs of the threatened, endangered, sensitive, and locally rare species. Only native species are used when establishing food plants for wildlife. Some openings provide permanent shrub/sapling habitats as a result of longer maintenance cycles.

Rare Communities and Old Growth

- 4D-003 Large, medium, and small patches of old growth are retained if compatible with the habitat needs of the threatened, endangered, sensitive, and locally rare species.

Vegetation and Forest Health

- 4D-004 Native forest insect and disease outbreaks are controlled only to prevent unacceptable damage to resources on adjacent land or to protect threatened, endangered, sensitive, or locally rare species. Non-native, invasive insects and diseases may be eradicated or suppressed to prevent a loss of the special biological community. Favor biological control methods.
- 4D-005 Eradicate non-native invasive plants when the infestations are isolated. Use hand-applied chemicals, with Forest Supervisor approval, when necessary.
- 4D-006 Vegetation management is allowed when compatible with the habitat needs of the threatened, endangered, sensitive, and locally rare species. Allow vegetation management activities to:
- ▶ Improve threatened, endangered, sensitive, and locally rare species habitat;
 - ▶ Restore, enhance, or mimic historic fire regimes;
 - ▶ Maintain, enhance or restore the diversity and complexity of native vegetation;
 - ▶ Reduce insect and disease hazard;
 - ▶ Control non-native invasive vegetation; or
 - ▶ Provide for public safety and trail maintenance.

Timber Management

- 4D-007 These lands are classified as unsuitable for timber production. Vegetation management may be accomplished with commercial timber sales as an appropriate method of reducing costs associated with these activities.

Non-timber Forest Products

- 4D-008 Do not permit the collection of non-timber forest products, except for scientific purposes as permitted by the Forest Supervisor.

Prescribed Fire and Wildland Fire Use

- 4D-009 Vegetation management may be accomplished with management-ignited prescribed fire, wildland fire use, and mechanical treatments as an appropriate method of reducing costs associated with these activities.

Recreation

- 4D-010 Where recreational uses are negatively affecting threatened, endangered, sensitive, and locally rare species, modify recreation sites or trails to reduce or eliminate negative effects. New and improved recreational developments are designed to avoid adverse effects to threatened, endangered, sensitive, and locally rare species.
- 4D-011 These areas are unsuitable for designation of new OHV routes or ATV use areas, unless crossing the area is the only feasible alternative or results in less environmental impact.

Appalachian National Scenic Trail

- 4D-012 Within the foreground of the Appalachian Trail, all activities will be planned and carried out in cooperation with the appropriate Appalachian Trail management partner(s). See Management Prescription 4A for additional management direction applicable to this corridor.

**4D BOTANICAL/
ZOOLOGICAL
AREAS**

Scenery

4D-013 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	H	M	M	M	M	M

**4E CULTURAL/
HERITAGE AREAS**

Minerals

4D-014 These areas are available for federal oil and gas leasing with controlled surface use to protect threatened, endangered, sensitive, and locally rare species. Other Federal minerals may be available on a case-by-case basis after full consideration of effects on threatened, endangered, sensitive, and locally rare species.

4D-015 Permit mineral materials for commercial, personal, free, and administrative use purposes with conditions to protect threatened, endangered, sensitive, and locally rare species habitat.

4D-016 Federal oil and gas leases exist in some of these areas. Roads, wells, and other necessary infrastructure associated with these leases are allowed. Existing lease stipulations are used to minimize disturbance to threatened, endangered, sensitive, and locally rare species habitat.

4D-017 Private mineral rights exist in some of these areas. Roads, wells, and other necessary infrastructure associated with these rights are allowed. Requests for access to a non-Federal interest in lands pursuant to a reserved or outstanding right are recognized, and reasonable access is granted. Encourage such interests to minimize disturbance to threatened, endangered, sensitive, and locally rare species habitat.

Roads

4D-018 Road construction or reconstruction are informed by a watershed-scale or site-specific road analysis considering the needs and values of the specific special biological area.

4D-019 Density of open roads remains near the current level throughout the planning period, with only small increases or decreases.

Lands and Special Uses

4D-020 These areas are unsuitable for designation of new utility corridors, utility rights-of-way, or communication sites. Existing uses may continue unless removal is necessary to protect threatened, endangered, sensitive, and locally rare species.

4E CULTURAL/HERITAGE AREAS

Four areas on the Jefferson National Forest are designated as Cultural/Heritage Areas, the Settlers Museum on the Mount Rogers NRA, the Lignite and Fenwick Mines areas on the New Castle District and the Glenwood Iron Furnace areas on the Glenwood District. This management prescription is allocated to approximately 1,700 acres (<1%) across the Jefferson National Forest.

EMPHASIS:

Cultural/Heritage Areas are managed to highlight and protect unique historic resources as

well as to develop public understanding of, and appreciation for, the influence of human history on the forest ecosystem. Sites are preserved and protected as appropriate in accordance with the law. Management focus is providing public access and education.

DESIRED CONDITION:

Cultural/Heritage Areas provide outstanding opportunities for people to learn about the cultural history of the Forest and to enjoy a wide variety of recreation opportunities in an attractive setting. Safe, barrier-free public access by both roads and trails is provided and designed to protect sensitive historic resources. Sensitive resources and areas are protected from human-caused damage. Recreational access through parts of these areas may be limited in order to protect historic resources. Where public access is unrestricted, interpretive information is available to develop understanding of the importance of protecting the historic and biologic communities of the area. Interpretive materials and services are high quality and effectively communicate the influence of people on the forest ecosystem. Site-specific management plans are prepared for these areas covering site interpretation; cultural/historic resource protection; vegetation, fire, and wildlife management, and other resource uses.

There is low need for visitors to rely on their personal physical abilities and primitive recreation skills. Education and interpretation are strongly emphasized and school groups are encouraged to visit the sites. The sights and sounds of other visitors are evident and opportunities to encounter other visitors are moderate to high. Visitors seeking solitude may find that difficult to achieve, particularly in peak use seasons. Trails may be highly developed, including hardened trails and boardwalks to protect the resource and to provide for a high level of accessibility for persons of all abilities. Mountain biking, horseback riding, and dispersed camping may be confined to designated trails and areas. Other appropriate recreational activities include hiking, bird watching, photography, hunting and fishing.

Visitors enjoy a variety of forested and non-forested communities, with outstanding and interesting historic features. The landscape character is typically historic, pastoral, or cultural often showing a great deal of human influence, surrounded by a natural appearing backdrop. Late successional to old growth forest communities occur in some of these areas and additional acres may be allowed to develop in future years if consistent with the historic character of the area.

Some of these cultural/heritage areas lie within the foreground of the Appalachian National Scenic Trail. Within the foreground of the Appalachian Trail, management practices are designed to achieve the desired condition of this management prescription as well as protect the Appalachian Trail experience, strengthen the role of volunteers and volunteer organizations, provide opportunities for high quality outdoor recreation experiences, and provide for the conservation and enjoyment of the nationally significant scenic, historic, natural and cultural qualities of the land through which the Appalachian Trail passes.

Since there is the potential for large numbers of visitors at peak use seasons, regulations are necessary for protection of resources and visitors. Information is provided at bulletin boards or kiosks, as well as at Forest Service visitor's centers and in brochures. Visitors are encouraged to practice minimum impact techniques while recreating. Trash receptacles may be provided at parking areas and high use areas. Modern facilities that fit with the historic character of the area are present to provide for visitor safety and comfort and to protect resources. Facilities are designed with sensitivity to character, scale, and color, which complement the surroundings at each specific site. This could range from semi-primitive to rural. Facilities might include parking areas, trailheads, bulletin boards, interpretive kiosks, signs, restrooms, canoe/raft launches, fishing platforms, picnic sites, etc.

**4E CULTURAL/
HERITAGE AREAS**

These areas are characterized by a full range of forest successional stages from early to mid to late. Early-successional forest conditions may be created both naturally and purposefully when compatible with the cultural and historic objectives of the area. Vegetation is influenced both by natural processes and humans. Low intensity timber harvest, prescribed fire, wildlife habitat improvements, and integrated pest management are appropriate management tools to maintain the long-term goals of the desired condition related to education and interpretation of the historic uses of these areas. Relatively longer rotation ages and a lower percentage of early successional forest in these areas reflect a "low intensity" approach to vegetation management and the higher priority of protecting the cultural resource. Wildland fires are suppressed using an appropriate management response to protect heritage resources.

STANDARDS**General**

- 4E-001 All management activities within these areas must be compatible with the protection and interpretation of cultural/historic resources.

Water, Soil, and Air

- 4E-002 Watershed restoration work is scheduled considering protection of historic values and resource elements.

Terrestrial and Aquatic Species

- 4E-003 Provide up to four percent of forested land in early successional habitat conditions in the Lignite and Fenwick Mines areas.
- 4E-004 Existing old fields, pastoral areas, wildlife openings, and other wildlife habitat improvements may be present and maintained. Expansion of existing openings and/or creation of new openings may occur. Non-invasive non-natives are sometimes used when establishing food plants for wildlife, but native species are preferred. Some openings provide permanent shrub/sapling habitats as a result of longer maintenance cycles.

Rare Communities and Old Growth

- 4E-005 Large, medium, and small old growth patches are maintained within these areas when consistent with the historic character of the area.

Vegetation and Forest Health

- 4E-006 Control insect and disease outbreaks when necessary to protect the cultural/historic values, to reduce hazards to visitors, or for safety or legal reasons. Eradicate recently established non-native pests when possible. Favor the most effective control method.
- 4E-007 Non-native species may be planted for watershed restoration purposes.
- 4E-008 Allow vegetation management activities to:
- ▶ Restore or maintain historic vegetative communities appropriate to the time period being emphasized;
 - ▶ Demonstrate historic and present day logging systems;
 - ▶ Enhance or rehabilitate scenery;
 - ▶ Maintain developed recreation facilities, including roads and trails;
 - ▶ Enhance both game and non-game wildlife habitat;
 - ▶ Improve threatened, endangered, sensitive, and locally rare species habitat;

- ▶ Maintain rare communities and species dependent on disturbance;
- ▶ Reduce insect and disease hazard;
- ▶ Control non-native invasive vegetation;
- ▶ Reduce fuel buildups; or
- ▶ Provide for public health and safety.

**4E CULTURAL/
HERITAGE AREAS**
Timber Management

- 4E-009 The Lignite and Fenwick Mines areas on the New Castle Ranger District are suitable for timber production. See Timber Suitability Map.
- 4E-010 The remaining areas are unsuitable for timber production. Vegetation management may be accomplished with commercial timber sales as an appropriate method of reducing costs associated with these activities.
- 4E-011 Within the Lignite and Fenwick Mines areas, timber harvest practices are modified to recognize and interpret the cultural, historic, aesthetic and recreational values of these lands.
- 4E-012 All even and uneven-aged silvicultural systems are allowed. The systems used will be based on the vegetation management objective.
- 4E-013 Manage regeneration harvest areas with the following rotation ages:

Upland hardwoods	100-120
Cove hardwoods	80-100
White pine	60-80
Yellow pine	60-80
Scarlet oak/Black oak	60-80

Non-timber Forest Products

- 4E-014 Do not permit the collection of living plants or animals, and artifacts unless such collections are for the purpose of achieving the stated management goals.

Wildland Fire Suppression

- 4E-015 A full range of suppression strategies are employed to protect cultural/historic resources.

Prescribed Fire and Wildland Fire Use

- 4E-016 Vegetation management may be accomplished with management-ignited prescribed fire and mechanical treatments as an appropriate method of reducing costs associated with these activities.
- 4E-017 Areas where heavy equipment fireline construction is prohibited are designated through the site plan for the area.

Recreation

- 4E-018 Recreational access through these areas may be restricted in order to protect historic and cultural resources.

Appalachian National Scenic Trail

- 4D-013 Within the foreground of the Appalachian Trail, all activities will be planned and carried out in cooperation with the appropriate Appalachian Trail management partner(s). See Management Prescription 4A for additional

4E CULTURAL/
HERITAGE AREAS

management direction applicable to this corridor.

Scenery

4F SCENIC
AREAS

4E-020 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	H	H	M	M	M	M

4E-021 Facilities and management activities emphasize the historic landscape character.

Minerals

4E-022 The Settlers Museum and Glenwood Furnace areas are available for federal oil and gas leasing with controlled surface use to protect the cultural/historic resources and values. The Lignite and Fenwick Mines areas are available for federal oil and gas leasing with standard stipulations. Other Federal minerals may be available in all three areas on a case-by-case basis.

4E-023 The Settlers Museum and Glenwood Furnace areas are not available for mineral materials for commercial, personal, or free use purposes. Administrative use of mineral materials is allowed. In the Lignite and Fenwick Mines areas, permit mineral materials for commercial, personal, free, and administrative use purposes with conditions to protect the cultural/historic resources and values.

Lands and Special Uses

4E-024 These areas are unsuitable for designation of new utility corridors, utility rights-of-way, or communication sites. Continue existing uses. Require a landscape management plan with screening, feathering, and other vegetation management techniques to mitigate the visual and other impacts of new, upgraded, or reauthorized utility corridors or communication sites.

4F SCENIC AREAS

This approximately 1,000 acre area is found on the Clinch Ranger District, known for its rock outcrops, cliffs, cascades, a small waterfall, and the Devil's Bathtub.

EMPHASIS:

Protect and enhance the scenic qualities and natural beauty.

DESIRED CONDITION:

This prescription area is managed with a focus on scenic values. Visitors to this area enjoy hiking, photography, wildlife viewing, and hunting. The landscape character is natural appearing with an intact, continuous forest canopy. Occasional gaps occur in the canopy from the results of natural disturbances.

A 4-mile loop trail along the Devil's Fork drainage and a 2-mile side trail to the top of Little Mountain facilitate visitors' enjoyment of the stream and surrounding gorge. Most of the recreation use is day-hiking to the Devil's Bathtub where visitors enjoy a moderately challenging trail to a unique geologic feature. Beyond the Bathtub and off the trail, opportunities for solitude are available, and visitors may be challenged to rely on their own personal physical abilities and primitive recreational skills such as bouldering,

climbing, and orienteering. Other than the trail, no facilities are present within the Devil's Fork area.

4F SCENIC
AREAS

Vegetation is influenced both by natural processes and humans. The lower part of the trail is actually an old logging and coal mining railroad grade that threads its way up the cascading stream. Devil's Fork is underlain by private mineral rights. At some point in the future, it is possible that roads, wells, and other necessary infrastructure associated with these rights may be observed within the area if reasonable access cannot be provided outside of this prescription area. Forest Service management practices focus on maintenance of the existing scenery, recreation, watershed, and aquatic resources and values of the area.

These areas are characterized by a predominance of mid- and late-successional forests composed of poplars, hemlocks, and birch with a well-developed understory of rhododendron. As the area continues to age, natural mortality increases developing characteristics of older aged forest communities. Integrated pest management is an appropriate management tool to control non-native invasive vegetation and pests. Prescribed fire or wildland fire use may be used to restore and maintain historic fire regimes; however, the primary disturbance in the area is flooding, windstorms, and landslides.

STANDARDS

Terrestrial and Aquatic Species

4F-001 Existing old fields, wildlife openings, and other habitat improvements for fish and wildlife are not maintained, and succeed to forest, deteriorate over time, or are removed. New permanent wildlife openings are not created.

Vegetation and Forest Health

4F-002 Control insect and disease outbreaks when necessary to protect scenic values, to reduce hazards to visitors, or for safety or legal reasons. Eradicate recently established non-native invasive pests when possible. Favor the most effective control method.

4F-003 Suppression, eradication, and Slow the Spread actions to control **gypsy moth** infestations are allowed.

4F-004 Actions to eradicate or suppress **hemlock woolly adelgid** infestations are allowed.

4F-005 Eradicate non-native invasive plants when the infestations are isolated. Use hand-applied chemicals when necessary.

4F-006 Salvage of dead and dying trees is only allowed when there is a threat to health and safety or ecological resources.

Timber Management

4F-007 These lands are unsuitable for timber production. Timber harvest is not allowed unless associated with reasonable access to valid existing rights.

Non-timber Forest Products

4F-008 Do not issue authorizations for the commercial use of any forest products.

4F-009 Allow personal-use collection of dead and down wood only for on-site campfire use.

4F-010 Allow personal-use collection of non-timber forest products (nuts, berries,

**4F SCENIC
AREAS**

pinecones, etc.), provided they are not threatened, endangered, sensitive or locally rare.

Wildland Fire Suppression

- 4F-011 Use suppression methods and equipment that cause the least alteration of the watershed landscape and least disturbance of the land surface.
- 4F-012 Tractor-plow units or bulldozers are allowed, with Forest Supervisor approval, only on fires with an imminent threat to life or private property that cannot be controlled by other means. Evidence of such use is obliterated as soon as practicable.

Prescribed Fire and Wildland Fire Use

- 4F-013 Management-ignited prescribed fire and mechanical treatments are allowed to protect and enhance scenic resources and values; reduce wildland fire potential due to high fuel loadings, mimic historic fire regimes, maintain or enhance wildlife habitats, or to benefit fire dependent and associated forest communities.

Recreation

- 4F-014 Trail construction, reconstruction, and relocation are allowed and designed for protection of the soil, water, vegetation, visual quality, user safety, and long-term maintenance. Emphasize trails that appear to be part of the natural environment and not an intrusion upon it.

Scenery

- 4F-015 Management activities; such as trail construction, maintenance and signing are designed to meet or exceed a high scenic integrity objective.
- 4F-016 This area is unsuitable for designation of new OHV routes or ATV use areas.

Range

- 4F-017 Livestock grazing is not permitted.

Minerals

- 4F-018 The entire Devil's Fork watershed is underlain by private mineral rights. Requests for access to a non-Federal interest in lands pursuant to a reserved or outstanding right are recognized and reasonable access is granted. Encourage such interests to minimize surface disturbances when possible. (See also standards under Lands).
- 4F-019 These areas are not available for mineral materials for commercial and personal use purposes. Administrative and free use of mineral materials is allowed.

Roads

- 4F-020 Do not permit road construction and reconstruction, subject to valid existing rights.

Lands and Special Uses

- 4F-021 These areas are unsuitable for new linear rights-of-way and communication sites, subject to valid existing rights. Require a landscape management plan with screening, feathering, and other vegetation management techniques to mitigate the visual and other impacts of upgraded, or reauthorized utility corridors or communication sites.

4F-022 Existing special use authorizations are allowed to continue. Other new special uses are authorized if consistent and compatible with the desired condition of these areas.

4F SCENIC
AREAS

4J URBAN/SUBURBAN INTERFACE

4J URBAN/
SUBURBAN
INTERFACE

This management prescription is allocated to approximately 3,900 acres (<1%) across the Jefferson National Forest. However, Wildland Urban Interfaces occurs wherever forestland adjoins human developments.

EMPHASIS:

These areas emphasize a "defensible space" that provides a buffer between human developments and forestland, reducing the risk of wildland fire. This prescription recognizes that these areas are people's "backyards" so a long-term goal of high quality, fire-resistant scenery is also emphasized.

DESIRED CONDITION:

The vegetative composition and structure of these lands serve as a firebreak to reduce the inherent risks of wildland fire, increase the likelihood of successful fire suppression, and to reintroduce a frequent low-intensity fire regime fire into fire-adapted ecosystems. Fuel treatments are designed to reduce stand density, reduce ladder fuels, and to reestablish the open woodland character of xeric pine and oak ecosystems.

Management of these lands is coordinated with adjacent landowners. Since wildland fires do not stop at political, jurisdictional, or private boundaries, Forest Service efforts are combined with adjacent landowners, local community governments, and cooperating agencies to incorporate the defensible space concept. Other elements of the strategy may include signing, adequate roads, water sources, and public education programs to inform communities of the need for management action.

The structure and appearance of the Wildland Urban Interface defensible space varies by forest type and fuel conditions at the time of initial treatments. Forest understories may be treated to reduce ladder fuels, shrub layers may be removed or compacted, tree density may be reduced through thinning, or entire overstories may be removed. Defensible space areas may have a well-defined, artificial looking edge. As weather and fuel conditions permit, prescribed fire may be applied in an effort to meet fuel reduction and ecosystem restoration objectives.

Mid- and early-successional forests are common as a result of fuels reduction treatments. In the xeric pine and oak woodlands elements of both early successional grassy understories and late successional open woodland overstories are present. The landscape character ranges from natural appearing to suburban. These landscapes will often appear altered in the short-term while the defensible space is created and a normal fire regime restored. The long-term goal is to maintain a moderate to high scenic integrity. Managers will use a variety of public education programs to establish an "ecological aesthetic" over time to build knowledge and appreciation of how a healthy ecosystem functions and how humans fit into it.

These areas will provide a variety of motorized and non-motorized recreation opportunities. Human activities may be evident in some places. Visitors will likely see other people in the parts of these areas with motorized access. The trail and access emphasis will depend on the specific conditions of each area. Outdoor skills are of moderate importance to visitors in these areas.

4J URBAN/
SUBURBAN
INTERFACE

OBJECTIVES

- 4J-OBJ1 Restore and maintain 3,900 acres of this area in condition class 1 by the end of the planning period.

STANDARDS

Terrestrial and Aquatic Species

- 4J-001 Early successional habitat is created as a result of fuels reduction and ecosystem restoration treatments .
- 4J-002 Existing old fields, pastoral areas, wildlife openings, and other wildlife habitat improvements may be present and maintained. Expansion of existing openings and/or creation of new openings may occur and are frequently incorporated into fuel breaks. Non-invasive non-natives are sometimes used when establishing food plants for wildlife, but native species are preferred. Some openings provide permanent shrub/sapling habitats as a result of longer maintenance cycles.

Rare Communities and Old Growth

- 4J-003 Old growth patches are not provided for in this prescription area.

Vegetation and Forest Health

- 4J-004 The forest health strategy is to prevent the occurrence of pest problems by managing host-type conditions at low hazard conditions. Use appropriate and practical suppression of pests, both non-native and native, with all available tools as the normal practice, including species conversions to match species to sites and genetic selections for disease resistance.
- 4J-005 Assure salvage is rapid, complete, and emphasizes marketing timber before its value decreases.
- 4J-006 Maintain and restore Table Mountain pine communities, except within identified firebreaks where vegetation management is desirable to establish communities that are more fire-resistant.

Timber Management

- 4J-007 This area is classified as suitable for timber production. See Timber Suitability Map.
- 4J-008 Use even-aged silvicultural systems. Clearcutting is the optimum silvicultural system for regenerating southern yellow pines, reducing fuels, and providing a defensible space in these management prescription areas.
- 4J-009 Clearcutting, coppice with reserves with 15 to 25 square feet of basal area per acre left to ensure adequate sunlight for oak regeneration, and two-aged silvicultural systems, which leave 20-40 square feet of basal area per acre, are predominately used. In order to provide vertical diversity and future mast production, leave trees with a mean diameter of the codominant trees in the stand.
- 4J-010 Regeneration harvest areas range in size from 2 to 40 acres.
- 4J-011 Manage regeneration harvest areas with the following rotation ages:

Upland hardwoods	80-100
Cove hardwoods	120-180
White pine	70-90
Yellow pine	80-100
Scarlet oak/Black oak	80-100

Scenery

4J-012 This area is managed with a short-term scenic integrity objective of low until the ecosystem and landscape character are rehabilitated. By the end of the planning period, management activities are designed to meet or exceed the following Scenic Integrity Objectives:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	H	M	M	M	M	M

4J URBAN/
SUBURBAN
INTERFACE

4K SPECIAL
AREAS

4K1 NORTH
CREEK SPECIAL
AREA

4K Special Areas - North Creek, Hoop Hole, Crest Zone, Whitetop Mountain, Whitetop Laurel and North Fork of Pound

This management prescription is allocated to approximately 29,500 acres (4%) across the Jefferson National Forest. Each Special Area is described separately. The standards that apply are discussed at the end of the description and desired future condition for each of the six areas. Portions of this management prescription are suitable for timber production.

EMPHASIS:

These six areas contain a variety of unique natural resources with a mixture of compatible management emphases. Because of their unique features, complexity, and degree of interest, these areas are designated as Special Areas.

4K1 NORTH CREEK SPECIAL AREA

The approximately 5,200 acre North Creek Special Area is located in Botetourt County, east of Arcadia. The North Creek Special Area includes most of the North Creek watershed. This watershed is almost entirely national forest land (99%), which is unusual on the Jefferson National Forest and across the Southern Appalachians. This area encompasses the Apple Orchard Falls Special Management Area identified in the 1985 Jefferson Forest Plan, a significant portion of the Peaks of Otter Salamander habitat conservation area, popular wild trout fishery, North Creek Campground, Colon Hollow dispersed recreation area, a portion of the Appalachian National Scenic Trail, and two National Recreation Trails. North Creek is an eligible Wild and Scenic River in the recreational category and has been designated an "Exceptional Surface Water" by the State of Virginia. The area is bounded by the Blue Ridge Parkway on the south, the slopes of Pine Mountain and Thomas Mountain on the east, Colon Hollow, Arcadia, and Jennings Creek on the north, and the slopes above Middle Creek on the west.

The North Creek Special Area contains significant recreation, water, historic, and biologic values. The North Creek Special Area is managed to: 1) recognize, maintain, and enhance the high value dispersed and developed recreation uses and scenic values throughout the area including the Appalachian National Scenic Trail; 2) maintain, restore, and enhance aquatic and riparian processes, functions, and habitats; 3) maintain, restore, and enhance habitats for the Peaks of Otter Salamander and other forest interior species; and 4) protect and perpetuate the outstandingly remarkable values that led to North Creek's status and classification as a "recreational" Wild and Scenic River candidate.

Due to the diversity of values and uses of the North Creek Special area, management emphasis varies as one moves from west to east and north to south in the management prescription. Areas in Colon Hollow, near North Creek Campground, and along Middle Creek Road (Forest Road 3101) receive a great deal of hunting use during the

**4K1 NORTH
CREEK SPECIAL
AREA**

appropriate seasons, as well as other dispersed recreation uses such as wildlife viewing and hiking at other times of the year. Conversely, the southern and eastern portions of the management prescription are much more remote and recreation experiences here are more closely related to backcountry hiking and camping or wildlife viewing of forest interior species. Given this diversity, emphasis in the former areas relate to a Roaded natural recreation experience with management for common game species such as deer and turkey, while management in the latter areas relate to a semi primitive experience with management for forest interior species like the Peaks of Otter salamander. Accordingly, the areas within the Peaks of Otter Salamander Primary Habitat Conservation Area and Appalachian National Scenic Trail corridor are unsuitable for timber production. The remainder of the area is suitable for timber production. (See Figure 3.1).

DESIRED CONDITION:

This North Creek Special Area is managed to sustain a relatively high number of recreationists in a manner that protects the surrounding water, soil, vegetation, and wildlife, particularly the Peaks of Otter salamander within its habitat conservation area. (See Figure 3.2 in management prescription 8E2 for a map of the primary and secondary habitat conservation area.) Few areas offer this variety of recreation activities so accessible to the public. Visitors drawn from well outside the region may choose from a wide variety of well-maintained nature-based recreation opportunities including the developed campground in a rural setting, dispersed camping, day hiking, backpacking, fishing, hunting, and wildlife viewing in roaded natural to semi-primitive settings.

A combination of high quality forest roads and well-marked trails provide a variety of access levels for seniors, urban visitors, and recreationists with special access needs ranging from easy along the North Creek Road and in the developed campground to difficult along the steep mountain trails. The North Creek Road, FDR 59, provides the primary access into the interior of this area. The Colon Hollow Road (FDR 782), Thomas Mountain Road (FDR 768), and Apple Tree Road (FDR 3034) are also important access points leading to dispersed camping areas and trailheads. These roads and the Blue Ridge Parkway, Jennings Creek, Middle Creek and Parker Gap Roads, which surround the perimeter of the area, are maintained and improved to meet the growing demands for pleasure driving and to showcase the high quality scenery maintained throughout the area. Open road density will remain at current levels, with closed roads serving as wildlife linear strips, hiking trails, and emergency access.

The landscapes of the North Creek Special Area retain a natural, forested appearance. A regionally distinctive landscape features rock outcroppings, waterfalls, cascading mountain streams, and a structurally diverse mid- to late-successional forest community with a continuous forested canopy, with the exception of occasional pastoral and historic/cultural enclaves. The valued character of the natural appearing and cultural landscapes appears intact with no noticeable deviations. The area is interspersed with forest communities of all seral stages and herbaceous openings providing both wildlife habitat and visual diversity.

The forest overstory include mixed mesophytic and mesic oak-hickory forests dominated by red, white, chestnut, and black oaks, as well as tulip poplar, sugar and red maples, and hemlocks depending on soils, geology, slope position, and moisture availability. The overstory is relatively closed, multi-layered, and moderately to densely stocked. Insects are actively suppressed around the high-use recreation areas of Colon Hollow and North Creek as well as within a half mile of existing roads. Where tree stocking is lower as a result of disturbances, there will often be a well-developed understory of mountain laurel, rhododendron, wild azalea, blueberry, wild grape, huckleberry, dogwood, and serviceberry. A variety of grasses and forbs are found within maintained wildlife openings, scenic vistas, and disturbed areas. Surrounding recreation areas and along scenic corridors, low intensity vegetation management may be occasionally employed.

Wildlife species associated with area-sensitive mid- to late-successional deciduous forest habitats expected to inhabit this area include ovenbird, cerulean warbler, black-billed cuckoo, and Swainson's warbler. This management prescription also provides optimal to suitable habitat for black bear and other mid- to late-successional species including Peaks of Otter salamander, southern pigmy shrew, downy woodpecker, eastern gray squirrel, eastern fox squirrel, and sharp-shinned hawk. Wildlife species associated with early and mid- to late-successional deciduous forest habitats are expected to inhabit the areas classified as suitable for timber production, including eastern towhee, regal fritillary, white-eyed vireo, wild turkey, whitetail deer, ruffed grouse.

Across the Special Area, cove hardwood forests may be thinned to 60-80 square feet of basal area to provide habitat for cerulean warblers known to exist within the North Creek watershed. Structural diversity within mixed mesophytic and dry-to-mesic oak forest communities is enhanced through commercial and non-commercial vegetation management activities. 4-10 percent of the areas classified as suitable for timber production is maintained in early successional habitat conditions. Vegetation management is also designed to maximize hard mast production, and to establish and maintain reproduction of a diversity of species, especially oaks, of mast bearing age in dominant and co-dominant crown classes. Trees with open-grown crowns receiving plenty of sunlight produce the most acorns and the creation of canopy gaps large enough to get full sunlight on the forest floor helps maintain oak regeneration as well as stimulate soft mast and browse production. Maintenance of habitat diversity is critical to provide soft mast and herbaceous vegetation to benefit a variety of early, mid, and late successional species.

Within the habitat conservation area of the Peaks of Otter Salamander, these activities would be carried out in accordance with the Habitat Conservation Agreement for the Peaks of Otter Salamander (August 26, 1997). Wildland fires are usually suppressed and use of prescribed fire is limited due to high visitor use and the infrastructure investments.

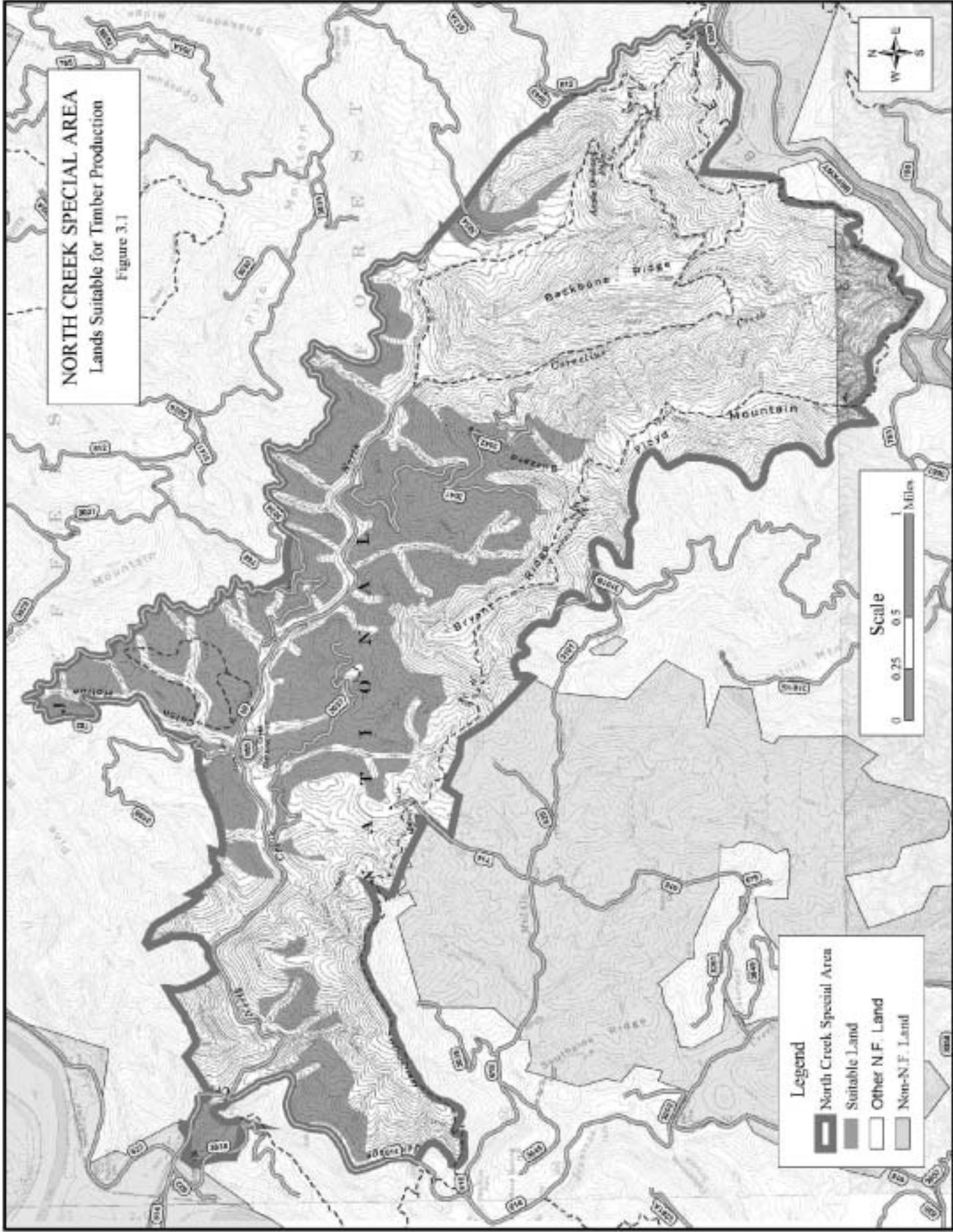
Both wild and stocked trout fishing continue as popular recreational activities. The reproducing population of wild trout, blacknose dace, fantail darter, and torrent sucker in North Creek and Cornelius Creek and their tributaries are sustained through maintenance and enhancement of fish cover, stream temperature, water chemistry, and stream structure. Fishing, swimming, hiking, camping, and other recreational pursuits in and near streams are balanced with the need to protect floodplain, stream channel, and aquatic habitat functions.

The foreground of the Appalachian National Scenic Trail encompasses a portion of this management prescription. Within the foreground of the Appalachian Trail, management practices are designed to achieve the desired condition of this management prescription as well as protect the Appalachian Trail experience, strengthen the role of volunteers and volunteer organizations, provide opportunities for high quality outdoor recreation experiences, and provide for the conservation and enjoyment of the nationally significant scenic, historic, natural and cultural qualities of the land through which the Appalachian Trail passes. The foreground of the Appalachian Trail is unsuitable for timber production.

STANDARDS

Water, Soil, and Air

- 4K1-001 Water quality in the North Creek watershed is maintained at existing or higher levels in keeping with the Virginia designation for Exceptional Surface Waters.
- 4K1-002 Streambank stabilization, boardwalks, bridges, use restrictions or when no other option exists, area closures may be employed to protect floodplain, stream channel, and aquatic habitat functions.



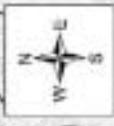
NORTH CREEK SPECIAL AREA
 Lands Suitable for Timber Production
 Figure 3.1

Legend

-  North Creek Special Area
-  Suitable Land
-  Other N.F. Land
-  Non-N.F. Land

Scale

0 0.25 0.5 1 Miles



Terrestrial and Aquatic Species**4K1 NORTH
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- 4K1-003 Fish stocking is permitted in the lower reaches of North Creek, from the campground downstream.
- 4K1-004 Provide 4-10 percent of lands classified as suitable for timber production in early successional habitat conditions.
- 4K1-005 New wildlife openings and ponds are allowed. Existing wildlife openings may continue to be maintained.

Threatened, Endangered, And Sensitive Species

- 4K1-006 Within the Peaks of Otter salamander habitat conservation area, activities must comply with the Habitat Conservation Agreement. See Management Prescription 8E2 for Peaks of Otter salamander habitat conservation area management direction.

Vegetation and Forest Health

- 4K1-007 Existing form, line, color, and texture will be used to mitigate insect and disease effects on visually sensitive areas. This may include adjusting the shape of affected sites by feathering edge lines between disturbed and undisturbed areas and debris disposal.
- 4K1-008 Vegetation management adjacent to National Scenic and National Recreation trails is limited to that necessary for visitor safety, access or to enhance aesthetics. Vegetation management adjacent to other system trails may occur to achieve habitat objectives for early- and/or mid-late successional game species.
- 4K1-009 Strive to establish a rich variety of native wildflower species in wildlife openings, mowed roadsides, and timber harvest areas.
- 4K1-010 Allow vegetation management activities to:
- ▶ Maintain developed recreation facilities, including roads and trails;
 - ▶ Enhance both game and non-game wildlife habitat for hunting and/or viewing;
 - ▶ Improve habitat for area-sensitive mid- to late-successional species;
 - ▶ Enhance or rehabilitate scenery; including:
 - Create scenic vistas;
 - Create a pleasing mosaic of tree species of various densities and stem sizes;
 - Feature flowering trees, character trees, and shrub species;
 - Create park-like effects in the understory;
 - Enhance fall color species;
 - ▶ Maintain, enhance, or restore the diversity and complexity of native vegetation;
 - ▶ Improve threatened, endangered, sensitive, and locally rare species habitat;
 - ▶ Maintain rare communities and species dependent on disturbance;
 - ▶ Reduce fuel buildups;
 - ▶ Suppress or control insect and disease outbreaks;
 - ▶ Provide for public health and safety.

**4K1 NORTH
CREEK SPECIAL
AREA**

Timber Management

Lands Classified as Unsuitable for Timber Production

- 4K1-011 Commercial timber harvest is not allowed within the **Peaks of Otter salamander primary habitat conservation area**. See Management Prescription 8E2a for Peaks of Otter salamander habitat conservation area management direction.
- 4K1-012 Outside of the **Peaks of Otter salamander primary habitat conservation area**, vegetation management may include commercial timber harvest as an appropriate method of reducing costs associated with these activities.
- 4K1-013 Clearcutting is only allowed where absolutely necessary to suppress or control active insect and disease infestations, including but not limited to southern pine beetle.

Lands Classified as Suitable for Timber Production

- 4K1-014 Lands classified as suitable for timber production within this area are shown on the Timber Suitability Map accompanying this Forest Plan.
- 4K1-015 Within the **Peaks of Otter salamander secondary habitat conservation area**, timber activities must comply with the Habitat Conservation Agreement. See Management Prescription 8E2b for Peaks of Otter salamander habitat conservation area management direction.
- 4K1-016 Regeneration harvest areas range in size from 2 to 40 acres.
- 4K1-017 Utilize coppice with reserves, two-aged shelterwoods, thinning, and/or group selection to accomplish habitat objectives within this area. Coppice with reserves will leave 15- 25 square feet of basal area per acre left to ensure adequate sunlight for oak regeneration. Two-aged silvicultural systems will leave 20-50 square feet of basal area per acre of 8-14 inch diameter high quality trees in order to provide vertical diversity and future mast production.
- 4K1-018 Clearcutting is only allowed where absolutely necessary to suppress or control active insect and disease infestations, including but not limited to southern pine beetle.
- 4K1-019 Manage regeneration harvest areas with the following rotation ages:

Upland hardwoods	120-180
Cove hardwoods	120-180
White pine	80-100
Yellow pine	80-100
Scarlet oak/Black oak	80-100

Wildland Fire Suppression

- 4K1-020 Lightning fires are generally suppressed to minimize acreage burned due to high levels of public use and infrastructure investments in these areas.

Prescribed Fire and Wildland Fire Use

- 4K1-021 Prior to prescribed burning in this area, consider specific locations of fire dependent and associated species as well as effects on scenery, recreation facilities, forest visitors, and the Peaks of Otter salamander.

Recreation

- 4K1-022 Dispersed camping is prohibited within 300 feet of North Creek and North Creek road.
- 4K1-023 Recreation opportunities include Rural around North Creek campground,

Semi-Primitive 2 in the eastern third of the area, and Roded Natural in the remainder of the area. See Recreation Opportunity Spectrum Map accompanying the Revised Plan.

- 4K1-024 Where appropriate, interpretive services (trails, signs, brochures, viewing areas) are provided to enhance visitors' understanding and appreciation of the area's special values. Informational kiosks describing the Peaks of Otter salamander, its unique geographical distribution, its habitat, fragility, and conservation efforts are encouraged.
- 4K1-025 Maintain trail markers or blazes to provide clear trail route identification.
- 4K1-026 Manage National Scenic and Recreation trails for foot travel only.
- 4K1-027 Motorized access is limited to currently existing roads. These areas are unsuitable for designation of new OHV routes or ATV use areas.

Appalachian National Scenic Trail

- 4K1-028 Within the foreground of the Appalachian Trail, all activities will be planned and carried out in cooperation with the appropriate Appalachian Trail management partner(s). See Management Prescription 4A for additional management direction applicable to this corridor.

Scenery

- 4K1-029 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	H	M	M	M	M	M

Range

- 4K1-030 Livestock grazing is not permitted.

Minerals

- 4K1-031 The North Creek area is available for federal oil and gas leasing with controlled surface use to protect the recreation, aesthetic, and watershed values of the area, as well as Peaks of Otter salamander habitat. Other Federal minerals may be available on a case-by-case basis after full consideration of effects on area resources and values.
- 4K1-032 This area is not available for mineral materials for commercial, personal, or free use purposes. Administrative use of mineral materials is allowed primarily to administer the area, to restore riparian areas and aquatic habitat, to control erosion and sedimentation, and to repair flood damage.

Roads

- 4K1-033 New permanent road construction is not allowed, except:
 - ▶ Where the new road is the only prudent alternative to serve resource needs in adjacent areas and will minimally impact this area;
 - ▶ To relocate existing roads;
 - ▶ To provide access to trailheads;

**4K1 NORTH
CREEK SPECIAL
AREA**

- ▶ To provide access to private land, including reserved or outstanding mineral rights, when other routes are not feasible or more deleterious to the environment;

**4K2 HOOP HOLE
SPECIAL AREA**

- ▶ To protect public health and safety in the case of a catastrophic event;
- ▶ Subject to valid existing rights.

4K1-034 Open road density will be maintained at 1.0 miles per 1000 acres.

Lands and Special Uses

4K1-035 Locate new public utility rights-of-way and communication sites to areas of this prescription area where major impacts already exist. Limit linear utilities and rights-of-way to a single crossing of the prescription area, per project.

4K1-036 Organized recreation events are generally permitted within this area unless:

- ▶ They would likely result in a trend to federal listing or unacceptable harm to Peaks of Otter salamander;
- ▶ They would significantly affect stream channel stability, substrate, aquatic species or their habitats; and
- ▶ They would not be consistent with the social setting of the appropriate Recreation Opportunity Spectrum setting.

4K1-037 Other special uses are authorized if consistent and compatible with the goals and objectives of this area.

4K2 HOOP HOLE SPECIAL AREA

The Hoop Hole Special Area contains 4,400 acres and is located in western Botetourt County, northeast of the small community of Oriskany, Virginia. This area contains the Hoop Hole and Roaring Run National Recreation Trails, the Iron Ore Run trail and several small creeks that drain into Craig Creek. This area is bounded by the summit of Rich Patch Mountain on the west, Pine Mountain and Roaring Run on the north, State Highway 615 on the east, and a common boundary with private land on the south.

The Hoop Hole Special Area contains significant historic, recreational, wildlife, and fresh water resources. This Special Area is managed to: 1) maintain, restore, and enhance aquatic and riparian processes, functions, and habitats; and 2) recognize, maintain, and enhance the historic, scenic, geological, and recreational values within this entire area. These lands are classified as unsuitable for timber production, although timber harvest to meet the long-term goals of the desired condition is appropriate.

DESIRED CONDITION:

The Hoop Hole Special Area is managed to sustain a moderate level of recreationists in a manner that protects the surrounding water, soil, vegetation, historic, and wildlife resources. The Roaring Run area hosts both local and regional visitors, however, the remainder of the Special Area receives low to moderate recreation use due to the steep slopes. Recreational activities include a developed picnic area at Roaring Run, day hiking on the trails, fishing, hunting, wildlife viewing, and historic investigation.

Primary access to this area's lower boundary is by State Route 615, a paved secondary road. In addition, Forest Development Road 740 (Roaring Run), accesses the developed picnic area by branching off of State Route 621 for a quarter mile to the parking areas. There is also a small parking area for the Hoop Hole trailhead off of State Route 615. Other than the previously mentioned roadways, the access to the remainder of this area is by foot travel. These roadways not only provide access to the recreational opportunities

within this area, but they also provide a color corridor for motorists during the peak of the fall foliage season. The vehicle traffic is light in this area while in contrast, the scenic qualities are very high. Further recreation development in the area is limited by the steep and shallow soils on the mid to upper slopes. With the exception of the Roaring Run picnic area and nearby roads, this area is provides a Semi-Primitive Non-Motorized (SPNM) ROS setting.

The historic settlement of this area has had a direct and lasting impact upon the local forest resources. During the 1830s, numerous stone iron furnaces were constructed in the Appalachian Mountain chain. Roaring Run contains a 1830's era iron furnace preserved in a very good condition. During the period of 1830-1870s, the mid to lower slopes of this area were clearcut to supply cheap fuel to make crude pig iron from the iron ore. Topographic evidence can still be seen along the trail system that winds through this area of decades of former logging and iron ore production. Since that era, the forest has recovered. At present, the forest communities of this Special Area contain a natural appearing landscape character. The astute forest visitor can also observe local rare geological features in the Deisher Mountain area. Rock formations are present that are exposed in terms of geological layers involving eons of pre-historic time. Educational and interpretive information is available to develop understanding of the history and biological communities of the area.

The present forested overstory includes mesophytic and mesic oak-hickory forests dominated by red, white, and scarlet oaks, as well as tulip poplar, red maples, and white ash at the mid and lower elevations. Scattered pockets of yellow pine are maintained by prescribed fire and wildland fire use. White pines are slowly replacing the Eastern hemlock (killed by the hemlock woolly adelgid) along the small creeks in the area. Cavity trees, standing dead trees, and down logs are common throughout the area as a result of natural mortality. Some wildlife species associated with area sensitive mid to late-successional deciduous forest habitats expected to inhabit this area can include: ovenbird, cerulean warbler, black-billed cuckoo, and Swainson's warbler. This management prescription also provides suitable habitat for game species such as wild turkey, gray squirrel, and black bear.

Vegetation management may be observed around the Roaring Run Picnic Area complex and the Hoop Hole trailhead parking area to eliminate or reduce the amount of undesirable vegetation. Up to 4 percent of the Special Area may be in early successional habitat conditions primarily along the existing road system. The area closest to State Route 615 contains stands currently between 25-30 years old. Structural diversity within mixed mesophytic and dry-to-mesic oak forest communities may be enhanced to benefit mid- to late-successional forest species like the ovenbird. Aside from these vegetation management activities, the natural processes will eventually result in a large block of late successional to old growth forests throughout most of this area.

This Special Area is unsuitable for commercial timber production, although the activities mentioned can be accomplished using commercial timber harvests, which can be small in size and short in duration. Use of prescribed fire is limited, but not entirely eliminated, in this Special Area due to the steep slopes and difficulty of fire line construction involved.

In normal rainfall years, there is an abundance of fresh water that will flow though the several small creeks within this Special Area. A few of the smaller creeks in this area are: Roaring Run, Deisher Branch, Crawford Branch, Wolf Branch, Stony Run and Hipes Branch. Both Stony Run and Hipes Branch are classified as native trout streams. Roaring Run is stocked as a "put and take" area from the picnic facility downstream and as a "put and grow" area from the third footbridge above the picnic area. Fishing, hiking, historic exploring, and bird watching in or near Roaring Run must be balanced with the overall need to protect the floodplain, to keep the stream channel clear of unnecessary debris from recurring floods, and to protect the aquatic habitat environs.

**4K2 HOOP HOLE
SPECIAL AREA**

The public open road density will remain at current levels. The Hoop Hole/Roaring Run trail system is limited to foot travel only. No horses or mountain bikes are allowed. In addition, off-road vehicle use is prohibited within this entire Special Area in order to maintain the non-motorized setting of this area.

STANDARDS**Water, Soil, and Air**

4K2-001 Streambank stabilization, footbridges, or use restrictions may be employed to protect floodplain, stream channel, and aquatic habitat functions.

Terrestrial and Aquatic Species

4K2-002 Existing old fields, pastoral areas, wildlife openings, and other wildlife habitat improvements may be present and maintained. Expansion of existing openings and/or creation of new openings may occur. Non-invasive non-natives are sometimes used when establishing food plants for wildlife, but native species are preferred. Some openings provide permanent shrub/sapling habitats as a result of longer maintenance cycles.

4K2-003 Manage the habitat of the native trout in order to maintain or increase their overall populations. Large woody debris and/or stream structures may be used for this purpose.

Rare Communities and Old Growth

4K2-004 All large, medium, and small old growth patches are maintained within these areas.

Vegetation and Forest Health

4K2-005 All integrated pest management methods of control are available to reduce or eliminate mortality from insects and diseases. Use the most effective control method.

4K2-006 Allow vegetation management activities to:

- ▶ Maintain developed recreation facilities, including roads and trails;
- ▶ Enhance or rehabilitate scenery, including:
 - Create or maintain scenic vistas along the trail system;
 - Enhance fall color species;
- ▶ Enhance both game and non-game wildlife habitat;
- ▶ Improve threatened, endangered, sensitive, and locally rare species habitat;
- ▶ Maintain rare communities and species dependent on disturbance;
- ▶ Restore, enhance, or mimic historic fire regimes;
- ▶ Reduce fuel buildups;
- ▶ Suppress or control insect and disease outbreaks;
- ▶ Control non-native invasive vegetation; or
- ▶ Provide for public health and safety.

Timber Management

4K2-007 These lands are not suitable for timber production. Vegetation management

may be accomplished with commercial timber sales as an appropriate method of reducing costs associated with these activities.

Non-timber Forest Products

4K2-008 Cutting and removing of dead trees for fuelwood is permitted only along State Route 615. No vehicle access is permitted.

Wildland Fire Suppression

4K2-009 Wildland fire response is suppression with initial attack to minimize acreage burned. Suppression strategies will strive to minimize soil disturbance, as well as canopy and cover loss.

4K2-010 Minimize the use of mechanized equipment when suppression can be achieved with other methods. Avoid moist habitats during line construction when fire conditions allow.

4K2-011 Rehabilitate all firelines as quickly as possible through reseeding, mulching, or the addition of brush as needed.

Prescribed Fire and Wildland Fire Use

4K2-012 Vegetation management may be accomplished with management-ignited prescribed fire and mechanical treatments as an appropriate method of reducing costs associated with these activities.

Recreation

4K2-013 New developed recreation facilities are not planned for the next 10 years.

4K2-014 Dispersed camping is prohibited within the day use area of Roaring Run Picnic Area.

4K2-015 This special area is primarily managed for the Semi-Primitive Non-Motorized (SPNM) Recreation Opportunity Spectrum setting, though actual ROS classes range from SPNM, to Roaded Natural (RN). The developed picnic area of Roaring Run is managed for RN. See ROS Map.

4K2-016 Where appropriate, interpretive services (trails, signs brochures, viewing areas) are provided to enhance visitors' understanding and appreciation of the area's special values.

4K2-017 Manage National Recreation trails for foot travel only.

4K2-018 This area is unsuitable for designation of new OHV routes or ATV use areas.

Scenery

4K2-019 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	VH	H	H	H	H	H	H

Range

4K2-020 Livestock grazing is not permitted.

Minerals

4K2-021 The Hoop Hole area is available for federal oil and gas leasing with a no surface occupancy stipulation to protect the roadless character of the area.

**4K2 HOOP HOLE
SPECIAL AREA**

Other Federal minerals may be available on a case-by-case basis after full consideration of effects on the resources and values of the area.

**4K3 MOUNT
ROGERS CREST
ZONE SPECIAL
AREA**

- 4K2-022 The Hoop Hole area is not available for mineral materials for commercial, personal, or free use purposes. Administrative use of mineral materials is allowed when: a) the materials are used within the area itself; and b) use is necessary to protect the area resources and values.

Roads

- 4K2-023 Do not permit road construction, subject to valid existing rights and leases. Road reconstruction and minor relocation are permitted after full consideration of effects on backcountry resources and values.
- 4K2-024 Existing open public roads are maintained at current levels to provide for public access and safety.

Lands and Special Uses

- 4K2-025 These areas are unsuitable for new linear rights-of-way and communication sites.
- 4K2-026 Existing special use authorizations are allowed to continue. Other new special uses are authorized if consistent and compatible with the desired condition of this area.

4K3 MOUNT ROGERS CREST ZONE SPECIAL AREA

The 5,100 acre Crest Zone is located in Grayson County, Virginia. The Mount Rogers Crest Zone is managed to: 1) maintain outstanding vistas and natural scenery; 2) protect and recover the federally endangered northern flying squirrel, rare salamanders, and other species that inhabit this area; 3) retain the unique mix of high elevation spruce/fir forest, northern hardwood forest, rhododendron, blueberries, open grasslands, bogs, and seeps; 4) provide a large tract of backcountry recreation opportunities; and 5) protect the Appalachian National Scenic Trail experience.

DESIRED CONDITION:

The Crest Zone is a unique landscape character in the southern Appalachians, consisting of a mix of open areas, shrubs and forests in the Mount Rogers high country. Approximately 2,200 acres of the area is in open area management providing outstanding vistas and natural scenery. Visitors from the local region and around the world come to enjoy the scenic features of the intermingled pattern of woods, rhododendron, rock outcrops, wind-blown trees and bald-like pasture in a high elevation setting, making this a popular destination. The visitor gets a feeling of being in a high, vast expanse with uninhibited views into three states. The “wild ponies” add a special interest for hikers, especially families with children.

There are spectacular views to the distant southern Appalachian Mountains in North Carolina, to the north across Iron Mountain and toward the valley of Virginia, to the west across Mount Rogers toward Whitetop Mountain, and to the east toward the Three Peaks region. The vast openness of this mountaintop area offers a unique recreation experience. While several of the trails in the area are heavily used, visitors can find remote, back-country experiences if they use less popular trails or visit mid-week. Several of the more heavily used trails in the area include portions of the Appalachian Trail and Virginia Highlands Horse Trail. Popular destinations in the area include Rhododendron Gap, Wilburn Ridge, Thomas Knob shelter, and the Scales. Recreational activities include horseback riding, hiking, backpacking, mountain biking, rock-climbing, hunting (deer, turkey, grouse), blueberry picking, and driving to the Scales. Motorized recreation access

occurs only at the Scales. Trails provide dispersed recreation opportunities with a minimum of facilities.

The Crest Zone is managed and monitored to absorb moderate to high levels of recreation use while protecting air, soil, water, wildlife, and vegetative conditions. Limitations of use will occur if the dispersed activity results in, or is expected to result in, negative effects to the local ecosystem. The Limits of Acceptable Change (LAC) process has been completed for the entire high country, including the Crest Zone. Specific objectives and standards from the LAC process are located in Chapter 4, Management Area 7.

The foreground the Appalachian National Scenic Trail encompasses a portion of this management prescription. Within the foreground of the Appalachian Trail, management practices are designed to achieve the desired condition of this management prescription as well as protect the Appalachian Trail experience, strengthen the role of volunteers and volunteer organizations, provide opportunities for high quality outdoor recreation experiences, and provide for the conservation and enjoyment of the nationally significant scenic, historic, natural and cultural qualities of the land through which the Appalachian Trail passes.

This area comprises one of the most diverse assemblages of flora and fauna in Virginia and ranks very high throughout North America. The Virginia Division of Natural Heritage states that it also “contains one of the greatest concentrations of rare species and significant associates of plant communities in the state.” Biologists believe the healthiest population of the federally endangered northern flying squirrel in the state is located within this area. It is the northern limit of range for such species as Fraser fir, umbrella leaf, Weller’s salamander, and pigmy salamander. Forest communities such as red spruce, red spruce/Fraser fir, red spruce/northern hardwood forest, and mountaintop balds found within this special area are also very rare in Virginia. Sensitive forest plants such as Blue Ridge St. John’s wort, Roan Mountain rattlesnake-root and the state-rare long-stalked holly also occur here. Rhododendron is predominant near the Rhododendron Gap area. Blueberries and huckleberries are scattered throughout the Crest Zone. There are several species of native grasses in the open areas. Tree mortality as a result of Balsam woolly adelgid and other factors is evident in the Crest Zone.

The Crest Zone contains all or portions of three rare communities (See management prescription 9F). The largest area includes over 50 percent of the Crest Zone from Brier Ridge east to Wilburn Ridge and has one of the highest concentrations of rare species and significant plant communities in Virginia. Included are several globally rare plant species, the globally rare Fraser fir, and the federally endangered northern flying squirrel. The Big Wilson Creek rare community contains what may be Virginia’s largest high elevation bog. Most of the wetland is coniferous, but a large clearing supports several rare plants. The Pine Mountain rare community includes the pastureland and boggy seeps located near the Scales. This area also contains several rare plants.

The vegetation composition of the area has changed dramatically over the last 100 years. In the early 1900’s, the Crest Zone was northern hardwoods and Red spruce/Fraser fir. Widespread logging, human-caused fires, and grazing converted the forest into an open pasture area. The Forest Service completed acquisition of the Crest Zone in the early 1970’s. Approximately 2,900 acres are maintained in spruce-fir and northern hardwood forest, including 260 acres of red spruce restored through natural regeneration and planting. Through cattle and pony grazing, limited herbicide use, prescribed fire, and mechanical cutting, approximately 2,200 acres are maintained in an open grassy condition to provide outstanding scenery and recreation, as well as optimum habitat for high elevation early successional species including the chestnut-sided warbler and golden-winged warbler. Grass/forb areas generally found on ridges and woodlands will be allowed to grow adjacent to wetlands and drainages. A variety of native grasses, sedges and forbs are maintained throughout the balds.

**4K3 MOUNT
ROGERS CREST
ZONE SPECIAL
AREA**

The headwaters of several important trout streams start in the Crest Zone. These include Big Wilson Creek, Cabin Creek, Middle Fork Helton Creek, and Opossum Creek. Although these streams have lower acid neutralizing capabilities than streams flowing through limestone geologic formations, they are still productive at present with most streams still maintaining a pH in the lower 6 range. Native brook trout are found in the headwaters of these streams. Streams and riparian areas throughout the area are maintained or restored to forested conditions.

OBJECTIVES

- 4K3-OBJ1 Maintain approximately 2,200 acres in high elevation early successional habitat in the Crest Zone, including approximately 400 acres of high elevation bald restoration in this planning period.
- 4K3-OBJ2 Conduct 700-900 acres of prescribed fire per year on 2 to 4 year rotation.
- 4K3-OBJ3 Restore approximately 260 acres of the montane spruce-fir forest community within the planning period through 120 acres of natural regeneration and 140 acres of planting.
- 4K3-OBJ4 Develop a site-specific vegetation management plan within the planning period.

STANDARDS

Water, Soil, and Air

- 4K3-001 Fencing may be used to keep cattle and ponies out of sensitive areas. The bog at the headwaters of Big Wilson Creek will be protected from cattle disturbance as necessary. No new trails will be allowed in this area.
- 4K3-002 Trails will cross streams at hardened fords or bridges.

Terrestrial and Aquatic Species

- 4K3-003 Clumps of hawthorne and berry producing plants fir wildlife will be reserved during brush control operations within the bald areas.
- 4K3-004 Selected trout streams that are deficient of large woody debris may be improved through the placement of cover logs within the stream.

Threatened, Endangered, and Sensitive Species

- 4K3-005 All threatened, endangered and sensitive plant and animal populations will continue to be monitored for changes that might occur in their status.

Rare Communities and Old Growth

- 4K3-006 Protect rare communities according to management prescription 9F.
- 4K3-007 A vegetative corridor of Red spruce and Fraser fir will be planted to link spruce/fir stands on Cabin Ridge with those on Mount Rogers to promote gene flow for such species as the northern flying squirrel, Weller's salamander, and other wildlife species.
- 4K3-008 Fraser fir seedlings of Mount Rogers genetic stock that appear to be resistant to the Balsam woolly adelgid will be selected for restoration and corridor plantings.

Vegetation and Forest Health

- 4K3-009 Allow control of insect and disease outbreaks when necessary to protect the scenic and recreational values, to reduce hazards to visitors, or for safety and legal reasons. When actions are needed, first consider biological

- controls, hand control methods, and pesticides. Slow-the-Spread, suppression, and eradication of non-native pests techniques are allowed.
- 4K3-010 Retain the unique mix of woods, rhododendron, blueberries, open grasslands, riparian zones, bogs and seeps considering historical and ecological factors. Maintain grass/forb areas on ridges and allow wetlands and drainages to succeed to woodlands. Native species are encouraged over non-natives. Non-native invasive plants are controlled and/or eradicated. Reclaim portions of the existing bald where brush has encroached.
- 4K3-011 Establish and maintain blueberry patches in areas where picking has historically occurred. These areas include along trails and near the Scales. Control blueberries in other areas if needed.
- 4K3-012 Maintain the rhododendron area near Rhododendron Gap. Intervention to prevent conversion to forest may be needed to maintain a healthy stand of rhododendron.
- 4K3-013 Manage open grasslands to maximize native oatgrass (*Danthonia*).
- 4K3-014 Open area management may include grazing, prescribed burning, mechanical cutting, and herbicides. Herbicides may be used when needed to control vegetation. Use is limited to stump spraying on ridge tops and side slopes.
- 4K3-015 Control non-native invasive vegetation through mechanical cutting and herbicides.

Timber Management

- 4K3-016 These lands are not suitable for timber management.
- 4K3-017 Timber harvest or timber stand improvement may be used for control or suppression of insect or disease outbreaks, to provide for visitor safety, or to help maintain the open landscape.

Non-Timber Forest Products

- 4K3-018 Collection of plant materials is only permitted where removal will benefit the health of native vegetation or accomplish the desired condition of this management prescription. Collection of mushrooms, nuts, and berries for personal consumption is permitted.

Wildland Fire Suppression

- 4K3-019 Wildland fire response is suppression with initial attack to control, contain, or confine the fire to the grassy balds and to minimize spread from the balds to adjoining woodland. Suppression strategies will strive to minimize soil disturbance.
- 4K3-020 Evidence of fire suppression lines will be obliterated and the area restored as soon as practicable. Avoid moist habitats during line construction when fire conditions allow.

Prescribed Fire and Wildland Fire Use

- 4K3-021 Prescribed fire and wildland fire use are emphasized to restore and maintain grassy balds. Fire is applied at varying intensities to achieve resource objectives.
- 4K3-022 Prescribed fire and wildland fire use are designed to remove encroaching shrubs and/or trees and to improve forage quality and quantity for wildlife and livestock.

**4K3 MOUNT
ROGERS CREST
ZONE SPECIAL
AREA**

Range

- 4K3-023 Livestock grazing will be used to supplement other vegetation management techniques in the Crest Zone.
- 4K3-024 Access by livestock to springs, streams and bogs will be controlled by fencing except where access is required for livestock water and no apparent damage is occurring. Impacted areas will be hardened or fenced off.

Recreation

- 4K3-025 This special area is primarily managed for the Semi-Primitive Non-Motorized (SPNM) Recreation Opportunity Spectrum setting, though actual ROS classes range from Semi-Primitive Non-Motorized (SPNM), to Roded Natural (RN). An area around the Scales and Middle Fork Helton Creek road is managed for Roded Natural. An area at the bottom of Middle Fork Helton Creek Road is managed for Rural. See ROS Map.
- 4K3-026 Group size is limited to ten people at one time. This applies to day use or overnight use.
- 4K3-027 No new overnight structures are allowed in this area. Existing overnight structures may be rehabilitated, replaced or relocated if needed.
- 4K3-028 These areas are unsuitable for designation of OHV routes or ATV use areas. Motorized administrative use is permitted.
- 4K3-029 No new trails will be built in this area. Relocations and reconstruction of existing trails are permitted.
- 4K3-030 Trails open to horses may be maintained utilizing heavy equipment. Crushed stone may be applied as needed to harden horse trails. In highly visible open areas, the use of crushed stone that is an earth tone color is encouraged when possible.
- 4K3-031 Horses, mules and mountain bikes must stay on designated system trails or roads.
- 4K3-032 Directional signing along trails will be complimentary and blend into the natural surroundings.

Appalachian National Scenic Trail

- 4K3-033 Within the foreground of the Appalachian Trail, all activities will be planned and carried out in cooperation with the appropriate Appalachian Trail management partner(s). See Management Prescription 4A for additional management direction applicable to this corridor.
- 4K3-034 Manage the Appalachian Trail for foot travel only.

Scenery Management

- 4K3-035 Management activities are designed to meet or exceed the following Scenic Integrity Objectives:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	H	H	H	H	H	H

Roads

- 4K3-036 Do not permit road construction, subject to valid existing rights and leases. Road reconstruction and minor relocation are permitted after full consideration of effects on special area resources and values.

4K3-037 Existing open public roads are maintained at current levels to provide for public access and safety.

4K3 MOUNT
ROGERS CREST
ZONE SPECIAL
AREA

Minerals

4K3-038 The area is administratively unavailable for oil and gas leasing and leasing of other Federal minerals.

4K4 WHITETOP
MOUNTAIN
SPECIAL AREA

4K3-039 The area is not available for mineral materials for commercial or personal use purposes. Administrative or free use of mineral materials is allowed when: a) the materials are used within the Crest Zone; and b) use is necessary to protect the values of the Crest Zone.

4K3-040 Requests for access to a non-Federal interest in lands pursuant to a reserved or outstanding right are recognized, and reasonable access is granted. Encourage such interests to minimize surface disturbances when possible.

Lands and Special Uses

4K3-041 These areas are unsuitable for utility corridors or communication sites.

4K3-042 Existing special use authorizations are allowed to continue. Authorize other special uses, like outfitter/guide operations, if consistent and compatible with the desired condition of this area.

4K4 WHITETOP MOUNTAIN SPECIAL AREA

The 5,100 acre Whitetop Mountain Special Area includes portions of Grayson, Smyth and Washington counties. The summit of the mountain, extending to 5,560 feet, forms the second highest peak in the state. By comparison, the vertical elevation that occurs between the South Holston River near Damascus, VA and the summit of Whitetop is about 4,000 feet and may be compared to that found between Denver and the crest of the Front Range of the Rockies.

The Whitetop Mountain Special Area contains many significant biological, ecological, recreational, social and economic values. The area will be managed to 1) recognize, restore, enhance, protect, and maintain the unique biological diversity; 2) maintain and enhance the high value dispersed recreation uses and scenic values of the area including the Appalachian National Scenic Trail; and 3) restore, enhance and maintain habitat for threatened, endangered, sensitive and locally rare species such as the northern flying squirrel, Weller's salamander, Gray's lily, etc.

DESIRED CONDITION:

This special area is one of the most visited sites on the Mount Rogers National Recreation Area (NRA) for local and regional visitors seeking exquisite scenic views, picnicking, hiking, wildlife viewing, star gazing, photography, horseback riding, hunting, fishing, camping, snow skiing, or the traditional use of simply driving up to the summit for pleasure.

The area sustains a relatively high number of recreation visitors and the surrounding natural vegetative communities, water, soils, and wildlife will be protected. Visitors access the Whitetop Mountain Special Area via Forest Service Road (FSR) 89, State Routes 600, 601 and 783 for a variety of dispersed recreation activities. State Route 600 is part of the Mount Rogers Scenic Byway and roadside improvements to enhance visuals may include open area reclamation and conversion of wire fences to rail fences. FSR 89, a spur off the Mount Rogers Scenic Byway and the highest elevation road in Virginia, provides a unique opportunity for motorized access to a high elevation bald with outstanding views. It has the highest visitor use of any road on the Mount Rogers National Recreation Area.

**4K4 WHITETOP
MOUNTAIN
SPECIAL AREA**

Attractive stone walls or wooden fences are evident along sections of FSR 89 to prevent vehicles from traveling off the road and damaging rare plant communities.

Equestrians and hikers share the use of such trails as the Virginia Highlands Horse Trail (VHHT), Elk Garden Trail, Helton Creek, Helton Creek Spur and Sugar Maple Trail located within this area. The Virginia Highlands Horse Trail begins at the Elk Garden Trailhead, one of the busiest trailheads on the NRA with direct access to any trail in the Mount Rogers high country. The Elk Garden Trail will continue to be the only trail within this area open to mountain bikes, equestrians and hikers. Horse, mule, and mountain bike use are permitted on designated trails only. User-created trails are closed as soon as possible and the appropriate steps taken to prevent them from being reopened.

The foreground of the Appalachian National Scenic Trail encompasses a portion of this management prescription. Within the foreground of the Appalachian Trail, management practices are designed to achieve the desired condition of this management prescription as well as protect the Appalachian Trail experience, strengthen the role of volunteers and volunteer organizations, provide opportunities for high quality outdoor recreation experiences, and provide for the conservation and enjoyment of the nationally significant scenic, historic, natural and cultural qualities of the land through which the Appalachian Trail passes. The Appalachian National Scenic Trail and the Lovers Leap Trail are open only to hikers.

This area comprises one of the most diverse assemblages of flora and fauna in Virginia and ranks very high throughout North America. It is the northern limit of range for such species as Fraser fir, umbrella leaf, Weller's salamander, pigmy salamander, and shovel-nosed salamander. Rare forest plants such as the globally rare Mountain bittercress, and the state-rare Slender wood reedgrass. Whitetop Mountain supports the best representative stand of red spruce in Virginia that is more than 150 years old. Red spruce is expected to spread naturally over time down the slopes and eventually occupy more of the present northern hardwood sites to form mixed stands. Approximately 2,130 acres are maintained in spruce-fir and northern hardwood forest, including 900 acres of red spruce restored through natural regeneration.

The mid to lower slopes of the Whitetop Mountain Special Area are dominated by northern hardwood types composed of mixed and sometimes more pure stands of sugar maple, yellow & black birch, yellow buckeye, American beech, northern red oak and Eastern hemlock. Downed logs are evident across the forest floor providing habitat for the many salamanders and other wildlife species that occur here. Existing old growth stands are protected and additional old growth is allowed to develop within all forest types. Small stands of old growth black birch and sugar maple are found in the most remote, inaccessible areas. There is also a significant, unusual community of dwarfed northern hardwoods (submesotrophic scrub) located within this area (see management prescription 9F).

One of the best concentrations of the federally endangered northern flying squirrel in the state is located within the red spruce and red spruce/northern hardwood communities of this area. These forests support populations of two state rare amphibians, Weller's salamander and Pigmy salamander. The red spruce forest is the breeding site of five state-rare bird populations, including the Hermit Thrush, Magnolia warbler, Golden-crowned kinglet, Red-breasted nuthatch, and the Winter wren. The Red crossbill and purple finch, state species of special concern, may also nest in this area.

There are two mountaintop balds within the Whitetop Mountain Special Area. Here, visitors get the feeling of being in a vast expanse from the uninhibited views on a clear day, where they can easily view portions of three states. Whitetop bald is approximately 125 acres in size and extends down the south slope of Whitetop to approximately 5,000 feet elevation near Buzzard Rock. Elk Garden bald is approximately 80 acres in size and

lies in the saddle between Whitetop and Mount Rogers along State Route 600. Both of these locations with unique landscape character were recorded as open in the mid 1700's but their origin is sometimes a subject of dispute. These balds have similar rare vegetation including Gray's lily, Blue Ridge St. John's wort, and Roan Mountain rattlesnake-root. Three-toothed cinquefoil has only been found at Whitetop and is the largest population in Virginia. Both have a history of grazing since European settlement. Whitetop bald has not been grazed since the Forest Service acquired this area. Elk Garden bald is presently grazed to maintain its open pastoral character and the scenic vista. Both balds show signs of reverting to forested area in the absence of control efforts for the encroachment of shrubs and trees. These areas provide optimum habitat for high elevation early successional species including the chestnut-sided warbler and golden-winged warbler.

A variety of native grasses, sedges and forbs are maintained throughout the balds. Native species such as *Danthonia* are encouraged over non-natives and managed to insure their perpetuation for generations to come. Remedial steps are taken to insure the bald does not revert to a shrub or forest dominated community except on the extreme north edge of Whitetop bald where red spruce will be encouraged to reforest several acres of the bald area. Non-native invasive plants are controlled and/or eradicated. Selected portions of the existing bald where brush has encroached are reclaimed. Outbreaks of insects and disease are actively studied and suppressed where possible.

The headwater streams that flow from the slopes of the Whitetop Mountain have exceptional water quality, support some of the best trout waters in the state, and also provide habitat for a number of rare aquatic organisms. Eroding soils are rehabilitated and maintained as necessary to prevent soil movement. Area trails are located on suitable grades with effective drainage and are well maintained to prevent erosion. Illegal off-road vehicle use into the balds are minimized or eliminated with the use of barriers or other management practices, techniques, and law enforcement.

The Whitetop Special Area is the primary source for the collection of Sugar maple sap and wild leeks (ramps) that support local festival fund raising events for nearby fire departments and life saving crews. Such festivals are growing in numbers of participating visitors each year. This increasing demand is monitored for impacts to these biological resources.

There are no developed recreation facilities within this area except one trailhead parking lot at Elk Garden and two on Whitetop Mountain. These may be improved to meet visitor demand and protect resources. No new developed recreation are planned in this area. Interpretive services (trails, signs, brochures, viewing areas and bulletin boards) are provided to enhance visitors' understanding and appreciation of the area's special biological and ecological values. Informational kiosks describing the rare plants and animals, their habitat, threats, and conservation efforts are encouraged.

The communication uses on the summit of Whitetop continue to operate under special use authorization until other more suitable, affordable technology is available to replace these uses. Opportunities for complete removal of this site and the restoration of the summit to red spruce forest is a long-term goal. Burial of the above ground power lines within the existing access road is a short-term goal.

OBJECTIVES

- 4K4-OBJ1 Maintain approximately 235 acres in high elevation balds on Whitetop and Elk Garden, including approximately 55 acres of restoration in this planning period.
- 4K4-OBJ2 Conduct prescribed fires at 2 to 4 year intervals.

**4K4 WHITETOP
MOUNTAIN
SPECIAL AREA**

- 4K4-0BJ3 Restore approximately 900 acres of the montane spruce-fir forest community within the planning period through natural regeneration.
- 4K4-0BJ4 Analyze a boardwalk interpretative trail to replace the Lover's Leap Trail and loop through a small portion of the red spruce forest, in order to protect rare species.

STANDARDS

Terrestrial and Aquatic Species

- 4K4-001 Maintain existing wildlife clearings. They may be expanded through mowing, cultivation, and prescribed burning.
- 4K4-002 Reserve clumps of hawthorne and berry producing plants during brush control operations within the bald areas for wildlife.
- 4K4-003 Selected trout streams that are deficient of large woody debris may be improved through the placement of cover logs within the stream.

Threatened, Endangered, And Sensitive Species

- 4K4-004 Improve salamander habitat by falling selected trees in areas where coarse wood does not average a minimum of 15 pieces per acre from natural causes. These pieces of coarse wood should have a minimum small end diameter of 8 inches, a minimum length of 10 feet and be relatively evenly spaced over the landscape.

Rare Communities and Old Growth

- 4K4-005 Protect rare communities according to management prescription 9F.

Vegetation and Forest Health

- 4K4-006 Integrated pest management techniques may be employed for control of insects and disease threatening forest health.
- 4K4-007 Design management projects to prevent non-native invasive plant introduction into this area.
- 4K4-008 Prescribed fire, chain sawing, mowing, grazing and hand-applied herbicides are considered primary treatment options for vegetation management within the balds. Aerial spraying of herbicide is not permitted.
- 4K4-009 Vegetation management along the Appalachian National Scenic Trail and the scenic byway is intended to improve visitor safety and enhance the scenic views.
- 4K4-010 Flowering and fruiting trees, trees with good fall color, and character trees are selected as leave trees within the bald areas.

Timber Management

- 4K4-011 These lands are not suitable for timber management.

Non-Timber Forest Products

- 4K4-012 Collection of blueberries, mushrooms and wild leeks (ramps) for personal consumption are allowed without permit. Permits are required for such products if they are to be sold.
- 4K4-013 The cutting of firewood is prohibited within this area.

Wildland Fire Suppression

- 4K4-014 Wildland fire suppression response minimizes the spread from the balds to adjoining woodland. Suppression strategies will strive to minimize soil disturbance.
- 4K4-015 Evidence of fire suppression lines will be obliterated as soon as practicable. Avoid moist habitats during line construction when fire conditions allow.

Prescribed Fire and Wildland Fire Use

- 4K4-016 Prescribed fire and wildland fire use are emphasized to restore and maintain open areas. Fire is applied at varying intensities to achieve resource objectives.
- 4K4-017 Prescribed fires are designed to remove encroaching shrubs and/or trees and to improve forage quality and quantity for wildlife and perpetuate threatened, endangered, and sensitive species.

Recreation

- 4K4-018 Trail reconstruction and relocation consider the effects on rare species and their habitats.
- 4K4-019 Maintain trail markers or blazes to provide clear trail route identification for dense fog conditions.
- 4K4-020 Motorized access is limited to open roads only. These areas are unsuitable for designation of new OHV routes or ATV use areas.
- 4K4-021 Horses, mules and mountain bikes must stay on designated system trails or roads.
- 4K4-022 The Whitetop Mountain area including FSR 89, the Appalachian Trail, Whitetop bald, and the red spruce forest are closed to horse and mule use.

Appalachian National Scenic Trail

- 4K4-023 Within the foreground of the Appalachian Trail, all activities will be planned and carried out in cooperation with the appropriate Appalachian Trail management partner(s). See Management Prescription 4A for additional management direction applicable to this corridor.

Scenery Management

- 4K4-024 Management activities are designed to meet or exceed the following Scenic Integrity Objectives:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	H	H	H	H	H	H

Roads

- 4K4-025 Do not permit road construction, subject to valid existing rights and leases. Road reconstruction and minor relocation are permitted after full consideration of effects on special area resources and values.
- 4K4-026 Existing open public roads are maintained at current levels to provide for public access and safety.

4K4 WHITETOP MOUNTAIN SPECIAL AREA

Range

4K4-027 Livestock grazing is used to supplement other vegetation management techniques in the Elk Garden bald and the pastures along Helton Creek.

4K5 WHITETOP LAUREL CREEK SPECIAL AREA

4K4-028 Livestock access to springs and streams is controlled by fencing except where access is required for livestock water. These sites are to be hardened if monitoring shows that significant impacts are occurring.

Minerals

4K4-029 The area is not available for oil and gas leasing or other Federal mineral leases.

4K4-030 The area is not available for mineral materials for commercial or personal use purposes. Administrative or free use of mineral materials is allowed when: a) the materials are used within the Whitetop Mountain; and b) use is necessary to protect the values of the Whitetop Mountain.

4K5 WHITETOP LAUREL CREEK SPECIAL AREA

The majority of the 4,200 acre Whitetop Laurel Special Area is located in Washington and Grayson Counties, including the national forest portion of the Virginia Creeper Trail. Primary recreation, aquatic and biological features within this Special Area include: the Virginia Creeper National Recreation Trail (including two staffed visitor centers), Appalachian National Scenic Trail, Whitetop Laurel Accessible Fishing Trail, Taylors Valley Trail, and Saunders Trail; Mount Rogers Scenic Byway; Whitetop Laurel Creek, a blue-ribbon trout stream, and Green Cove Creek; and Whitetop Laurel Slopes, a 42-acre Special Biological Area supporting a rare community.

The Whitetop Laurel Special Area is managed to: 1) recognize, maintain and enhance the high value of scenery and recreation uses throughout the area; 2) maintain, restore and enhance aquatic and riparian processes, functions and habitats; 3) protect Whitetop Laurel Slopes, a Special Biological Area; 4) recognize and protect the historic and cultural values of the area; and 5) protect and perpetuate the outstandingly remarkable values that led to Whitetop Laurel Creek’s status and classification as a “recreational” Wild and Scenic River candidate.

DESIRED CONDITION:

Whitetop Laurel Creek has created a gorge from Creek Junction to Taylors Valley, with steep rocky sideslopes, numerous contributing tributaries, and dense vegetation. This steep landscape with a prominent cascading stream is intrinsically beautiful, has a rich cultural heritage of particular interest to railroading enthusiasts, and is a major draw to recreationists and naturalists. History buffs are drawn to the Virginia Creeper Trail, once part of the Virginia-Carolina Railway and later the Abingdon Branch of the Norfolk & Western Railway. This obscure country line was made famous by O. Winston Link who captured the last days of the steam engine in published photographs.

The Whitetop Laurel Special Area sustains a high number of visitors by maintaining and enhancing the scenic, aquatic, biologic and cultural values of the area as well as the recreation resources and facilities. The high profile trails and trout stream within the area draw visitors primarily from the tri-state region of Virginia, North Carolina and Tennessee. Dispersed recreation use is expected to rise, and management addresses that growing demand and strives to fulfill visitor expectations with facilities of an appropriate development level. Nature and history based recreation opportunities provided include hiking, biking, horseback riding, fishing, hunting, wildlife viewing, birding, scenic driving, picnicking, and history tracking. Cross country skiing may occur on ungroomed trails.

The majority of the recreation is categorized as dispersed use except for the scenic byway, two visitor centers and several trailhead parking facilities on the Virginia Creeper Trail that are fairly highly developed. Recreation use ranges from heavy use on the Virginia Creeper Trail to light use on the lesser known Saunders and Taylors Valley Trails. Apart from the scenic byway, all recreation within this area is non-motorized. The Mount Rogers Scenic Byway affords close foreground views of the cascading Whitetop Laurel Creek. Structures, signs, and other facilities associated with recreation are designed and maintained to blend in with and be complementary to the surrounding landscape or support an established, historic image.

The foreground the Appalachian National Scenic Trail encompasses a portion of this management prescription. Within the foreground of the Appalachian Trail, management practices are designed to achieve the desired condition of this management prescription as well as protect the Appalachian Trail experience, strengthen the role of volunteers and volunteer organizations, provide opportunities for high quality outdoor recreation experiences, and provide for the conservation and enjoyment of the nationally significant scenic, historic, natural and cultural qualities of the land through which the Appalachian Trail passes.

Green Cove Creek and Whitetop Laurel Creek support exceptional populations of wild trout. Whitetop Laurel has been designated as a blue-ribbon trout stream. It is situated in a beautiful setting, making it one of the most popular angler destinations in the state. This stream attracts local anglers but also draws people from surrounding states. Some segments of the stream are restricted with "Special Trout Regulations" while others are managed under regulations for stocked trout waters. There are several rare aquatic species found in the waters of Whitetop Laurel Creek and its tributaries including Tennessee dace, fatlips minnow, green-fin darter, and the Eastern hellbender. A 10.5 mile segment of this stream is eligible for designation as a Recreation River in the Wild and Scenic Rivers Program. Also, a three-mile segment of this stream has been designated as Exceptional Waters by the Virginia Department of Environmental Quality. Whitetop Laurel and its tributaries are managed to protect water quality, habitats of rare aquatic species and this important trout fishery.

The landscape is predominantly comprised of mid- to late-successional forest community except in the location of recreation facilities, managed wildlife openings, and traditional open areas such as pastures. The forest possesses multiple layers to provide visual diversity. Rhododendrons, mountain laurel, dogwood, redbud and other flowering shrubs and trees occur along portions of the scenic byway and the Virginia Creeper Trail. A variety of grasses and forbs are found within maintained wildlife openings, scenic vistas and cultural areas. Wildlife openings along trails provide wildlife viewing and hunting opportunities. Wildlife openings immediately adjacent to trails and roads mimic meadows, pastures and other open areas found throughout the area.

An area known as Whitetop Laurel Slopes contains a rare plant community on a southwest-facing spur ridge on the steep slopes of Whitetop Laurel. This 42-acre rare community supports a significant open-canopy glade in a white ash/hickory woodland (see management prescription 9F). Chief among the species present at this site is the state-rare shrub streambank mock-orange (*Philadelphus hirsutus*). Vegetation and soils within the community are strikingly different than that of the surrounding slopes.

Vegetative patterns, such as undulating woods lines and road and trailside park-like meadows may be created and/or maintained. Vista points along popular travel corridors are established and maintained to enhance scenic viewing of Whitetop Laurel and Green Cove Creeks and/or their tributaries, mountain scenery, pastoral landscapes, and remnants of the Virginia Creeper facilities such as watering stations. Species with vibrant spring flowering and fall color characteristics are featured. Insects and diseases causing forest health problems are suppressed. Areas damaged by insects, disease or fire are

**4K5 WHITETOP
LAUREL CREEK
SPECIAL AREA**

rehabilitated. The valued character of the natural appearing and cultural landscapes are either intact or appear intact to the casual observer. Traditional open areas, such as pastures, are retained. Wildland fires are typically suppressed to safeguard the infrastructure investments.

Forest roads and well-marked trails through these areas provide easy to moderate access for the public. A range of difficulty levels among the trails will be provided with opportunities being available for seniors, families with young children and persons with disabilities, as well as people seeking a challenging opportunity.

STANDARDS

Water, Soil, and Air

- 4K5-001 Streambank stabilization, maintenance of existing footbridges and trail trestles, and/or use restrictions will be employed to protect floodplain, riparian areas, the stream channel and aquatic habitat functions.

Terrestrial and Aquatic Species

- 4K5-002 Improvements are allowed for enhancing aquatic habitats and the viewing of aquatic species.
- 4K5-003 Existing old fields, pastoral areas, and wildlife openings may be present and maintained. Expansion of existing openings and/or creation of new openings may occur in order to enhance terrestrial wildlife viewing opportunities and the viewing of scenery.

Rare Communities and Old Growth

- 4K5-004 Protect the rare community known as Whitetop Laurel Slopes, including the population of streambank mock-orange according to management prescription 9F.
- 4K5-005 Interpretation of rare communities is encouraged when carefully controlled to promote understanding and stewardship as well as to enhance the recreational experience.

Vegetation and Forest Health

- 4K5-006 Reduce or control insect and disease using integrated pest management.
- 4K5-007 Allow vegetation management activities to:
- ▶ Maintain developed recreation facilities, including roads and trails;
 - ▶ Enhance or rehabilitate scenery, including:
 - Create or maintain scenic vistas along the trail systems and scenic byway;
 - Showcase spring flowering and fall color shrub, vine and tree species;
 - ▶ Enhance game and non-game wildlife habitat;
 - ▶ Improve habitat for threatened, endangered, sensitive and locally rare species habitat;
 - ▶ Maintain rare communities/species dependent on disturbance;
 - ▶ Restore, enhance or mimic historic vegetative patterns where desired around cultural features;
 - ▶ Reduce fuel buildups;

- ▶ Control non-native invasive vegetation.
- ▶ Provide for public health and safety .

4K5 WHITETOP
LAUREL CREEK
SPECIAL AREA

Timber Management

- 4K5-008 These lands are not suitable for timber production. Commercial timber sales may be appropriate when it is the most practical or economically efficient method to manage vegetation.

Non-Timber Forest Products

- 4K5-009 Removal of plant materials (moss, vines, shrubs, etc.) is generally incompatible with the management of this area, but may be permitted where such removal would be beneficial for forest health. Do not permit collection of herbs for commercial use. Removal of seeds, berries, nuts and mushrooms for domestic use is allowed.
- 4K5-010 Removal of dead and down trees only for fuelwood is permitted.

Wildland Fire Suppression

- 4K5-011 Lightning fires are generally suppressed to minimize acreage burned due to high levels of public use and infrastructure investments in these areas.
- 4K5-012 Use existing fire barriers or control lines where possible. Fire line construction will consist of the least ground disturbing method necessary for control. Favor handlines or wet lines where possible and waterbar and revegetate lines as soon as practical following the incident.

Prescribed Fire and Wildland Fire Use

- 4K5-013 Vegetation management may be accomplished with management-ignited prescribed fire and mechanical treatments as an appropriate method of reducing costs associated with these activities.
- 4K5-014 Plan prescribed fires to use existing barriers, e.g., streams, lakes, wetlands, roads, and trails, to reduce the need for fire line construction.

Recreation

- 4K5-015 This special area is managed primarily for the Roaded Natural (RN) Recreation Opportunity with a small area of Rural (R). See ROS Map.
- 4K5-016 New developed recreation facilities are not planned for the next ten years.
- 4K5-017 Maintain existing developed trailhead parking and, if necessary, expand to meet visitor demand. Restroom facilities will be provided for protection of resources and the comfort and convenience of visitors.
- 4K5-018 Maintain existing visitor centers and, if deemed desired and necessary, enhance (i.e., air conditioning added, interpretive exhibits expanded, etc.) to meet visitor expectations.
- 4K5-019 Dispersed camping is allowed throughout the Whitetop Laurel Special Area, except it is prohibited within 300 feet of trailhead parking facilities and visitor centers.
- 4K5-020 Camping is discouraged within 100 feet of trails and streams.
- 4K5-021 The document entitled *Management Guidelines for the Virginia Creeper Trail* is to be consulted for decisions related to proposals for new construction, reconstruction or rehabilitation of structures, tread, site amenities, signs and other trail features and for new or amended management policies on the Virginia Creeper Trail.

**4K5 WHITETOP
LAUREL CREEK
SPECIAL AREA**

4K5-022 These areas are unsuitable for designation of new OHV routes or ATV use areas, unless crossing the area is the only feasible alternative or results in less environmental impact.

Appalachian National Scenic Trail

4K5-023 Within the foreground of the Appalachian Trail, all activities will be planned and carried out in cooperation with the appropriate Appalachian Trail management partner(s). See Management Prescription 4A for additional management direction applicable to this corridor.

Scenery Management

4K5-024 Landscape character classes maintained within this Area include Natural Appearing, Rural Forested and Rural-Pastoral. Some Transitional-Mixed Use occurs in areas of community interface.

4K5-025 Management activities are designed to meet or exceed the following Scenic Integrity Objectives:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	H	H	H	H	H	H

Roads

4K5-026 Do not permit road construction, subject to valid existing rights and leases. Allow road reconstruction to improve recreational access, to improve soil and water, to protect property or for public safety.

4K5-027 Existing open public roads are maintained at current density levels to provide for public access and safety.

Range

4K5-028 Livestock grazing is not permitted.

Minerals

4K5-029 This Area is available for federal oil and gas leasing with a no surface occupancy stipulation. Other Federal minerals are not available.

4K5-030 These areas are not available for mineral materials for commercial, personal, or free use purposes. Administrative use of mineral materials is allowed primarily to administer the area, to restore riparian areas and aquatic habitat, to control erosion and sedimentation, and to repair flood damage.

4K5-031 Requests for access to a non-Federal interest in lands pursuant to a reserved or outstanding right are recognized, and reasonable access is granted. Encourage such interests to minimize surface disturbances when possible.

Lands and Special Uses

4K5-032 Allow utility structures, such as new transmission, gas or water lines, only in the location with the least impacts to scenic integrity and water resource quality.

4K5-033 Existing special use authorizations are allowed to continue. Allow other special uses when consistent and compatible with protection of the scenic, recreational, biological and historic values of the area.

4K6 NORTH FORK OF POUND SPECIAL AREA

4K6 NORTH FORK OF POUND SPECIAL AREA

The 5,500 acre North Fork of Pound Special Area is located in northwestern Wise County, Virginia. This area comprises the watershed for North Fork of Pound Reservoir which serves as the municipal water supply for the community of Pound. The 120 mile Pine Mountain Trail (designated Kentucky's Millennium Trail) from Breaks Interstate Park to Cumberland Gap Historical Park passes through the area. A federal oil and gas lease issued in 1984 covers most of this area and is currently in effect, held by production.

The North Fork of Pound Special Area contains significant recreation, scenic, water, and historic values. The North Fork of Pound Special Area is managed to: 1) recognize, maintain, and enhance the high value dispersed and developed recreation uses and scenic values throughout the area; 2) maintain healthy watersheds that provide clean drinking water, 3) maintain, restore, and enhance aquatic and riparian processes, functions and habitats; and 4) recognize, maintain, and enhance the history of the North Fork of Pound mountain community heritage before the area was flooded and the reservoir was constructed.

DESIRED CONDITION:

This area provides large tracts of backcountry recreation opportunity with a semi-primitive emphasis. Roads constructed for natural gas development are closed and available for both non-motorized uses as well as administrative access. Hiking, backpacking, mountain bike riding, rock climbing, nature study, hunting, and fishing are typical activities available in a setting where freedom from the sights and sounds of modern civilization is important. Visitors see evidence of natural gas development activity including wells and roads. However, those wells no longer producing and roads no longer needed are rehabilitated and returning to forested conditions. Other humans or human activities other than backcountry recreation use, maintenance of wildlife openings, and occasional prescribed burning are not evident. Outdoor skills and self-reliance are important for visitors because of the remoteness of this area.

The surface and ground water flowing from the North Fork of Pound source water protection area meets or exceeds all Federal and State requirements for safe drinking water. Streams reflect the physical, chemical, and biological structures that sustain high quality water. Forest management activities within this area are designed to protect drinking water sources. Practices to prevent contamination of drinking water sources are applied and monitored. Riparian corridors are maintained, restored, and enhanced to maximize water quality. Channeled ephemeral stream zones are managed as part of the riparian corridor within this watershed. Management activities that concentrate pollutant transport to streams or water bodies are mitigated and promptly rehabilitated to reduce impacts.

Significant potential sources of drinking water contamination are identified and the susceptibility of the water supply to contamination from these sources is determined. Existing trails, developed and dispersed recreation sites, and areas of concentrated recreation use are examined and problems mitigated.

The landscape character of this area is primarily shaped by natural processes (floods, storms, insects, diseases, and fires). Landscapes feature a structurally diverse mid - to late-successional forest community with a continuous forested canopy, with the exception of occasional pastoral and historic/cultural enclaves (old home, church, and school sites). The valued character of the natural appearing and cultural landscapes appears intact with no noticeable deviations.

These areas are characterized by a predominance of mid- and late-successional forests

**4K6 NORTH
FORK OF POUND
SPECIAL AREA**

with multiple canopy layers, which provide a variety of habitat niches and thermal and protective cover for wildlife. Snags used by birds, bats, and small animals are abundant. Dying and down trees are common, often in natural patches. Up to four percent of forested land may be in early-successional forest conditions created both naturally and purposefully when compatible with the backcountry recreation and source water protection objectives of these watersheds. These early successional habitat conditions may be created through a combination of prescribed fire, wildland fire use, and permanent wildlife habitat improvements. Prescribed fire and wildland fire use also play an important role in the maintenance of forested communities found throughout this management prescription. Aside from these management activities, natural processes will eventually result in a large patch old growth forest matrix throughout most of this area, interspersed with both naturally occurring and man-made brushy and herbaceous openings.

Wildlife species associated with area-sensitive mid- to late-successional forest habitats that are expected to inhabit this area include: ovenbird, cerulean warbler, black-billed cuckoo, and Swainson's warbler. This management prescription also provides suitable habitat for black bear.

These lands are classified as unsuitable for timber production and timber harvesting rarely occurs unless necessary to contain an insect or disease outbreak or slow the spread of a non-native invasive pest. Salvage of dead and damaged trees may occasionally occur to reduce fuel build-ups or to manage outbreaks of insects and diseases; however, it is limited to areas with existing road access as any road construction is prohibited.

Road density is less than ½ mile per 1000 acres, with closed roads serving as fire breaks, wildlife linear strips, hiking trails, and administrative access. An existing federal oil and gas lease, as well as reserved and outstanding mineral rights, exists within this watershed. Access and facilities necessary to exercise these leases and rights are engineered to prevent contamination of drinking water sources and are managed as closed to public motorized travel. Other than associated with these existing lease and rights, new roads are not constructed.

STANDARDS

Water, Soil, and Air

4K6-001 Channeled ephemeral stream zones are managed as part of the riparian corridor.

Terrestrial and Aquatic Species

4K6-002 Existing old fields, wildlife openings, and other terrestrial and aquatic habitat improvements for fish and wildlife may be present and maintained to enhance wildlife viewing, hunting, and fishing opportunities with riparian and drinking water protections accorded.

4K6-003 Expansion of wildlife openings or creation of new permanent wildlife openings by noncommercial timber cutting is allowed, but both existing and new cannot exceed more than four percent of the area. Non-invasive non-natives plants are sometimes used, but native species are preferred when establishing food plots for wildlife. Some openings are managed to provide permanent shrub/sapling habitat as a result of longer maintenance cycles to meet early successional habitat wildlife needs.

Rare Communities and Old Growth4K6 NORTH
FORK OF POUND
SPECIAL AREA

- 4K6-004 Rare communities requiring disturbance are maintained through wildland fire use, prescribed fire, or felling and leaving of trees.
- 4K6-005 Old growth patches of all sizes and community types are maintained and restored.

Vegetation and Forest Health

- 4K6-006 Allow vegetation management activities to:
- ▶ Maintain developed recreation facilities, including roads and trails;
 - ▶ Enhance both game and non-game wildlife habitat;
 - ▶ Improve threatened, endangered, sensitive, and locally rare species habitat;
 - ▶ Maintain rare communities and species dependent on disturbance;
 - ▶ Restore, enhance, or mimic historic fire regimes;
 - ▶ Reduce fuel buildups;
 - ▶ Suppress or control insect and disease outbreaks;
 - ▶ Control non-native invasive vegetation; or
 - ▶ Provide for public health and safety.
- 4K6-007 Allow control of insect and disease outbreaks when necessary to protect the values for which the area was established, to reduce hazards to visitors, or for safety and legal reasons, using all available methods (biological controls, hand-controls, mechanical, and pesticides).
- 4K6-008 Prohibit broadcast application of chemical pesticides. Broadcast application of pheromone flakes and *Bacillus thuringiensis var. kurstaki* (Btk) is allowed.
- 4K6-009 Eradicate non-native invasive plants when the infestations are isolated. Use approved hand-applied chemicals, when necessary.
- 4K6-010 Salvage harvesting operations are allowed to reduce fuels and the risks and hazards of damage from insects and diseases, using existing roads only with minimum necessary skid roads and landings.

Timber Management

- 4K6-011 These lands are unsuitable for timber production. Commercial timber harvesting is only allowed when associated with salvage (for the reasons listed above) and the exercise of valid existing mineral rights and leases such as timber associated with roads, gas well pads and pipelines.

Non-timber Forest Products

- 4K6-012 There will be no personal or commercial authorizations issued for harvesting or collecting non-timber forest products such as ginseng, golden seal, witch-hazel bark, firewood, etc.

Prescribed Fire and Wildland Fire Use

- 4K6-013 Vegetation management may be accomplished with management ignited prescribed fire, wildland fire use or mechanical fuel treatments as an appropriate method of reducing costs associated with these activities.
- 4K6-014 Use natural and existing man-made fuel breaks such as streams, rock slides, roads, trails, etc. where possible to minimize fireline construction.

**4K6 NORTH
FORK OF POUND
SPECIAL AREA**

Recreation

- 4K6-015 Subject to valid existing rights and following expiration of the existing Federal lease, this special area is primarily managed for the semi-primitive non-motorized and motorized ROS classes, although some of the area is roaded natural. See ROS Map.
- 4K6-016 Construction of new non-motorized trails and development of watchable wildlife observation sites are allowed. Establishment of interpretive sites are allowed to recognize, describe, and maintain the North Fork of Pound mountain community heritage before the area was flooded for the lake.
- 4K6-017 Recreation facilities and trails identified as potential sources of drinking water contamination are reconstructed, relocated, or decommissioned.
- 4K6-018 These areas are unsuitable for designation of new OHV routes or ATV use areas. Motorized administrative use is permitted.

Scenery

- 4K6-019 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	H	M	M	M	M	M

- 4K6-020 Management activities are designed to meet or exceed a high Scenic Integrity Objective in semi-primitive non-motorized areas within this prescription area, subject to valid rights and leases.

Range

- 4K6-021 Livestock grazing is not permitted.

Minerals

- 4K6-022 The North Fork of Pound is currently under lease, held by production. After expiration of this lease, the area will be available for federal oil and gas leasing with a no surface occupancy stipulation. Other Federal minerals may be available on a case-by-case basis after full consideration of effects on semi-primitive recreation opportunities and values.
- 4K6-023 There are approximately 946 acres of private mineral rights within the North Fork of Pound Special Area. Roads, wells, and other necessary infrastructure associated with these rights are allowed. Requests for access to a non-Federal interest in lands pursuant to a reserved or outstanding mineral right are recognized and reasonable access is granted.

Roads

- 4K6-024 Do not permit road construction, subject to valid existing rights and leases.
- 4K6-025 New roads needed for access to mineral leases or rights are engineered to prevent contamination of drinking water sources and managed as closed to public motorized travel.
- 4K6-026 Existing roads are closed to all but occasional administrative use which may include the following: 1) maintenance and inspection of gas well pads, roads, and pipelines; 2) maintenance of existing and creation of new wildlife

openings; 3) access required for implementation of prescribed burning; and 4) access required for wildland fire suppression.

4K6-027 Decommission any roads not needed for administrative access.

4K6 NORTH
FORK OF POUND
SPECIAL AREA

Lands and Special Uses

4K6-028 These areas are unsuitable for designation of new utility corridors, utility rights-of-way, or communication sites.

4K6-029 Existing special use authorizations are allowed to continue. Other new special use authorizations are authorized if consistent and compatible with the backcountry and source water protection goals of this area.

5A ADMIN-
ISTRATIVE SITES

5A ADMINISTRATIVE SITES

This management prescription is allocated to approximately 200 acres (< 1%) across the Jefferson National Forest.

EMPHASIS:

Sites include work centers, lookout towers, and Forest Service owned houses and offices . Sites are managed to serve/support resource programs and are maintained to protect capital investment.

DESIRED CONDITION:

Provide administrative sites and facilities that effectively and safely serve the public and accommodate the workforce. Administrative sites are readily accessed by road, although some are accessed by trails. The facilities should have barrier-free access.

The landscape character could range from natural appearing to urban/cultural. These areas are classified as unsuited for timber production.

Forest Service offices and/or visitor centers provide educational and/or interpretive opportunities such as exhibits and displays, books, videos and brochures. Where feasible and appropriate, short hiking trails are provided in association with office visitor centers. Lookout towers provide opportunities for viewing scenery on a grand scale. Hunting and fishing are generally not allowed at administrative sites.

Some of these administrative sites lie within the foreground of the Appalachian National Scenic Trail. Within the foreground of the Appalachian Trail, management practices are designed to achieve the desired condition of this management prescription as well as protect the Appalachian Trail experience, strengthen the role of volunteers and volunteer organizations, provide opportunities for high quality outdoor recreation experiences, and provide for the conservation and enjoyment of the nationally significant scenic, historic, natural and cultural qualities of the land through which the Appalachian Trail passes.

STANDARDS

Vegetation and Forest Health

5A-001 Aggressively control forest insects, diseases, and non-native invasive plants using the most effective control method.

**5A ADMIN-
ISTRATIVE SITES**

Appalachian National Scenic Trail

5A-002 Within the foreground of the Appalachian Trail, all activities will be planned and carried out in cooperation with the appropriate Appalachian Trail management partner(s). See Management Prescription 4A for additional management direction applicable to this corridor.

**5B DESIGNATED
COMMUNICATION
SITES**

Scenery

5A-003 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	M	M	M	M	M	M

Minerals

5A-004 This area is not available for commercial or personal use of mineral materials. Administrative and free use of mineral materials is allowed.

5B DESIGNATED COMMUNICATION SITES

This management prescription is allocated to approximately 72 acres (< 1%) across the Jefferson National Forest and includes the communications sites shown in Table 3-2.

EMPHASIS:

These designated sites contain special uses which serve a public benefit by providing a reliable communication network essential to local, regional, and national economies and security. These sites include ridgetop towers and other related facilities. These designated sites are managed to minimize adverse impacts on other resources.

DESIRED CONDITION:

Existing special use authorizations for communications continue within these designated sites. Each site is developed and utilized to its greatest potential in order to reduce the need to develop additional sites. Where possible, existing sites are expanded as needed

Table 3-2. Designated Communications Sites

Communication Site	District	Acres
Eagle Knob	Clinch	34
High Knob	Clinch	1
Mayking Peak	Clinch	2
Apple Orchard	Glenwood	2
Quebec Knob	Mount Rogers NRA	5
Whitetop	Mount Rogers NRA	10
Potts Mountain	New Castle	5
Brush Mountain	New River Valley	1
Butt Mountain	New River Valley	1
Flat Top	New River Valley	10
Walker Mountain	New River Valley	1

rather than creating additional areas. All users' equipment are compatible with forest surroundings and others users' equipment and frequencies. New equipment should be as inconspicuous to the surrounding terrain as possible. Special use authorizations are issued.

Vegetation consists predominantly of low grasses and wildflowers with some native deciduous and evergreen shrubs. For the most part the areas are on gently rolling terrain, some with exposed surface rock, rock outcrops, and meandering streams.

The protection of rare communities and species associates is provided, along with protection measures for population occurrences for threatened, endangered, sensitive, and locally rare species. This will provide a high likelihood that species within these associations will continue to persist on National Forest System lands.

The landscape character is cultural/urban. Scenery management techniques are used to mitigate adverse impacts. Utilizing existing and proposed towers to accommodate as many users as possible (within technical constraints) reduces tower clutter. These sites are non-forested, benefiting wildlife species, which favor grass, shrubs, old fields, and forest edges. These areas are managed to retain low growing vegetation which conforms to the safe operating requirements of the communication use and which reduce surface water runoff and erosion. Recreation is not emphasized or encouraged at these sites, although some of these sites are located within the foreground of the Appalachian National Scenic Trail.

STANDARDS

General

5B-001 Communications towers no longer in use or determined to be obsolete are removed by the holder of the special use authorization within 18 months of cessation of use.

Threatened, Endangered, And Sensitive Species

5B-002 Within the Peaks of Otter salamander habitat conservation area, activities must comply with the Habitat Conservation Agreement for Peaks of Otter salamander. See Management Prescription 8E2 for Peaks of Otter salamander habitat conservation area management direction.

Vegetation and Forest Health

5B-003 Aggressively control non-native, invasive plant species within these areas.

Appalachian National Scenic Trail

5B-004 Within the foreground of the Appalachian Trail, all activities will be planned and carried out in cooperation with the appropriate Appalachian Trail management partner(s). See Management Prescription 4A for additional management direction applicable to this corridor.

Scenery

5B-005 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	M	M	L	L	L	L	L

**5C DESIGNATED
UTILITY
CORRIDORS**
5C DESIGNATED UTILITY CORRIDORS

This management prescription is allocated to approximately 3,700 acres (1%) across the Jefferson National Forest.

EMPHASIS:

These designated corridors contain special uses which serve a public benefit by providing a reliable supply of electricity, natural gas, or water essential to local, regional, and national economies. They include long linear features like high voltage electric transmission lines and buried pipelines for public drinking water or natural gas. These designated corridors serve uses that require at least a 50 feet wide right-of-way. Local distribution lines are not included in this prescription area, but rather are part of the prescription area in which they are physically located.

DESIRED CONDITION:

Existing linear special use authorizations for transmission lines and pipelines for water and natural gas will continue within these designated corridors. Rights-of-way for uses within designated utility corridors are authorized by special use permit or easement. Where possible, existing corridors are expanded as needed rather than creating additional areas. Compatible multiple uses are encouraged, including co-location of communication uses on existing electric transmission towers.

Vegetation consists predominantly of low grasses, wildflowers with some native deciduous and evergreen shrubs, low-growing trees like dogwood and redbud, and young, sapling-sized trees.

The protection of rare communities and species associates is provided, along with the protection measures for population occurrences for threatened, endangered, sensitive, and locally rare species. This will provide a high likelihood that species within these associations will continue to persist on National Forest System lands.

Utility corridors are prime areas for viewing wildlife species that favor grass, shrubs, old fields, and forest edges. These areas are managed to retain low growing vegetation which conforms to the safe operating requirements of the utility and which reduce surface water runoff and erosion. Recreation use is generally hunting-related, although existing trail systems often cross these corridors. Some of these corridors are located within the foreground of the Appalachian National Scenic Trail. The landscape character could range from natural appearing to pastoral/cultural. Scenery management techniques are used to mitigate adverse impacts. These lands are predominately non-forest and therefore classified as unsuitable for timber production.

STANDARDS**Vegetation and Forest Health**

5C-001 Aggressively control non-native, invasive plant species within these corridors.

Appalachian National Scenic Trail

5C-002 Within the foreground of the Appalachian Trail, all activities will be planned and carried out in cooperation with the appropriate Appalachian Trail management partner(s). See Management Prescription 4A for additional management direction applicable to this corridor.

Scenery

5C-003 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	M	M	L	L	L	L	L

5C DESIGNATED UTILITY CORRIDORS

6 OLD GROWTH FOREST COMMUNITIES

6A OLD GROWTH FOREST COMMUNITIES NOT ASSOCIATED WITH DISTURBANCE

6 OLD-GROWTH FOREST COMMUNITIES

The following old growth community prescriptions, 6A, 6B, and 6C contain both existing and future old growth. Forest communities are assigned to one of these prescriptions based upon the normal disturbance regime for a given community type. For example, mixed mesophytic communities are low disturbance systems that commonly regenerate through natural development of relatively small canopy gaps, and occasional larger openings as a result of beavers, flood events, wind, or ice storms. Frequent fire in these systems was not typical historically and is not desirable presently. These forest communities are allocated to management prescription 6A.

Conversely, the xeric pine and pine-oak forest communities are well adapted to frequent fire return interval and long-term fire suppression is causing dramatic changes in both species composition and stand structure in these communities. These forest communities are allocated to management prescription 6B.

Management prescription 6C is allocated to those forest communities that are associated with a less frequent fire return interval. The dry-mesic oak forests and dry and dry-mesic oak-pine forest communities are also experiencing species composition and stand structure changes as a result of fire suppression, however, not nearly so dramatically as the southern yellow pine types.

All three management prescriptions (6A, 6B, and 6C) are unsuitable for timber production. Active management in 6B, and to a lesser extent 6C communities, is necessary to maintain both species composition and stand structure. This active management is almost entirely prescribed fire and wildland fire use, however, occasionally tree cutting or other vegetation management strategies may be necessary in the event of insect or disease outbreaks, non-native invasive pests, or where fire cannot be reintroduced due to external values at risk. Without this external management intervention individual species, like Table Mountain pine, could disappear from these communities resulting in unintended and unknown ecological consequences in the long-run.

6A OLD-GROWTH FOREST COMMUNITIES NOT ASSOCIATED WITH DISTURBANCE

This management prescription is allocated to approximately 300 acres (< 1%) across the Jefferson National Forest.

EMPHASIS:

This prescription is part of an overall network of large (2,500+ acres), medium (100 to 2,499 acres), and small old growth patches not dependent upon or associated with a disturbance regime. Management of these areas emphasizes protection, restoration, and

**6A OLD GROWTH
FOREST
COMMUNITIES
NOT ASSOCIATED
WITH
DISTURBANCE**

management of old growth forests and their associated wildlife, botanical, recreational, scientific, educational, cultural, and spiritual values. Within this prescription, no forest management activities or intervention will take place. The exception is for forest health considerations when threatened, endangered, sensitive, and locally rare species habitats may be threatened.

DESIRED CONDITION:

These areas contain a representation of forest community types perpetuated by natural processes. The old growth forest community types in these areas include: Eastern riverfront, river floodplain, montane spruce-fir, Northern hardwoods, conifer-Northern hardwoods, and mixed mesophytic. The natural evolving landscape character features a structurally diverse older aged forest community with a continuous forested canopy, with the exception of occasional gaps created by storms, insects, diseases, or fire. The valued character of these landscapes appears intact with no deviations.

Natural processes will maintain or restore a large, medium, or small patch old growth forest matrix. Rare communities and associated species not dependent upon disturbance will continue to exist in the area. Disturbance dependent communities are typically not well represented within these forest communities, confined to small brushy and herbaceous gaps and occasional large openings from natural disturbance events. Insects and diseases, primarily gypsy moth, hemlock woolly adelgid, oak decline, and southern pine beetle, play a major role in shaping future species composition and successional stages across these areas. Cavity trees, cull trees, standing dead trees, and down logs are common throughout the area as a result of natural mortality.

To date, no species or species group has been identified as being dependent upon old growth forest communities on the Jefferson National Forest; however, much is still unknown about many species. However, old growth forest communities may serve as suitable habitat for some species associates. For example, the hooded warbler and sharp-shinned hawk are associated with mature mesic hardwood forest communities, so this management prescription will provide suitable to optimum habitat for these species. This "coarse filter" approach of providing a representation of the different old growth forest communities helps to address overall biological diversity goals and provides a "biological safety net."

Commercial timber harvest and prescribed fire are not appropriate within these forest communities. Wildland fires are used to maintain the natural fire regime. Non-commercial felling of trees should be limited to that necessary to protect public health and safety.

The landscape character is natural evolving. These areas will provide a variety of dispersed, non-motorized recreation opportunities. Visitors will see little evidence of humans or human activities. A non-motorized trail system will provide the predominant means of access. Closed roads are available for non-motorized uses. Outdoor skills are important for visitors in the more remote portions of these areas. Hiking, nature study, backpacking, hunting, and fishing are typical activities available.

Some of these old growth communities lie within the foreground the Appalachian National Scenic Trail. Within the foreground of the Appalachian Trail, management practices are designed to achieve the desired condition of this management prescription as well as protect the Appalachian Trail experience, strengthen the role of volunteers and volunteer organizations, provide opportunities for high quality outdoor recreation experiences, and provide for the conservation and enjoyment of the nationally significant scenic, historic, natural and cultural qualities of the land through which the Appalachian Trail passes.

STANDARDS

**6A OLD GROWTH
FOREST
COMMUNITIES
NOT ASSOCIATED
WITH
DISTURBANCE**

General

- 6A-001 The following forest types are allocated to this management prescription when new discoveries of old growth communities that meet the criteria stated in the Forestwide direction are made: 04-08, 17, 41, 58, 63, 69, 72-75, or 81-82 (See Appendix D for information about these forest type codes).

Water, Soil, and Air

- 6A-002 Maintain soils in a natural, undisturbed state, except for approved watershed restoration projects, wildland fire control measures, and trail construction, use, and maintenance.

Terrestrial and Aquatic Species

- 6A-003 Existing old fields, wildlife openings, and other habitat improvements for fish and wildlife are not maintained, and succeed to forest, deteriorate over time, or are removed. New permanent wildlife openings are not created.

Rare Communities and Old Growth

- 6A-004 Rare communities are only maintained through natural processes, with the exception of appropriate management associated with threatened, endangered, sensitive, and locally rare species habitats.

Vegetation and Forest Health

- 6A-005 Native forest insect and disease outbreaks are controlled only to prevent unacceptable damage to resources on adjacent land or to protect threatened, endangered, and sensitive species. Non-native, invasive insects and diseases may be eradicated or suppressed to prevent a loss of the old growth community. Favor biological control methods.
- 6A-006 Suppression, eradication, and Slow the Spread actions to control **gypsy moth** are allowed.
- 6A-007 Eradicate non-native invasive plants when the infestations are isolated. Use hand-applied chemicals, with Forest Supervisor approval, when necessary.

Timber Management

- 6A-008 These lands are unsuitable for timber production. Timber harvest is not allowed unless associated with reasonable access to valid existing rights.

Non-timber Forest Products

- 6A-009 Do not issue authorizations for the commercial use of any forest products.
- 6A-010 Do not permit personal-use collection of dead and down wood or other non-timber forest products.

Wildland Fire Suppression

- 6A-011 Use suppression methods that cause the least alteration of the old growth community and least disturbance of the land surface.
- 6A-012 Avoid use of heavy equipment unless there is an imminent threat to life or property that cannot be controlled by other means. Evidence of such use willpa be obliterated as soon as possible.

6A OLD GROWTH FOREST COMMUNITIES NOT ASSOCIATED WITH DISTURBANCE

Prescribed Fire and Wildland Fire Use

6A-013 Management-ignited prescribed fire is not planned within these areas, but there is no reason to exclude these areas when prescribed fire is planned in adjacent areas.

Recreation

6A-014 Decommission facilities that are not compatible with the old growth community.

6A-015 Construct and maintain trails to the minimum standard necessary for protection of the old growth community, soil, water, user safety, and long-term maintenance. Emphasize trails that appear to be part of the environment.

6A-016 When these areas are accessible to the public, provide informational and educational materials explaining old growth functions and values and how people can help protect these areas from overuse.

6A-017 Do not designate any OHV roads or trails within these areas.

Appalachian National Scenic Trail

6A-018 Within the foreground of the Appalachian Trail, all activities will be planned and carried out in cooperation with the appropriate Appalachian Trail management partner(s). See Management Prescription 4A for additional management direction applicable to this corridor.

Scenery

6A-019 Management activities are designed to meet the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	VH						

Range

6A-020 Livestock grazing is not permitted.

Minerals

6A-021 These areas are available for federal oil and gas leasing with a no surface occupancy stipulation. Other Federal minerals are not available.

6A-022 This area is not available for commercial, personal, or free use mineral materials. Administrative use of mineral materials is allowed when a) the materials are used within the old growth community itself; and b) use is necessary to protect old growth resources and values.

6A-023 Federal oil and gas leases exist in some of these areas on the Clinch Ranger District. Roads, wells, and other necessary infrastructure associated with these leases are allowed. Existing lease stipulations are used to minimize disturbance to the old growth community.

6A-024 Some of these areas are underlain by private mineral rights. Roads, wells, and other necessary infrastructure associated with these rights are allowed. Requests for access to a non-Federal interest in lands pursuant to a reserved or outstanding right are recognized, and reasonable access is granted. Encourage such interests to minimize disturbance to the old growth community.

Roads

- 6A-025 Do not permit road construction, subject to valid existing rights and leases. Road reconstruction and minor relocation are permitted after full consideration of effects on old growth resources and values.
- 6A-026 Decommission unneeded roads.

**6A OLD GROWTH
FOREST
COMMUNITIES
NOT ASSOCIATED
WITH
DISTURBANCE**

Lands and Special Uses

- 6A-027 These areas are unsuitable for new special uses, except for research and outfitter-guide operations. Phase out existing non-conforming uses.
- 6A-028 Allow commercial use by outfitters and guides if compatible with the maintenance of old growth communities. Do not allow contest events such as foot races or horseback endurance events. Require outfitters and guides to use leave-no-trace techniques. Do not allow permanent camps.

**6B OLD GROWTH
FOREST
COMMUNITIES
DEPENDENT ON
FIRE**

6B OLD-GROWTH FOREST COMMUNITIES DEPENDENT ON FIRE

This management prescription is allocated to approximately 800 acres (< 1%) across the Jefferson National Forest.

EMPHASIS:

This prescription is part of an overall network of large (2,500+ acres), medium (100 to 2,499 acres), and small old growth patches dependent upon a disturbance regime. Management of these areas emphasizes protection, restoration, and management of old growth forests and their associated wildlife, botanical, recreational, scientific, educational, cultural, and spiritual values. Within this prescription, forest management activities are allowed in order to restore or maintain old-growth conditions.

DESIRED CONDITION:

The area contains a representation of the forest community types dependent on fire for successful regeneration. The forest community types in these areas include the southern yellow pine types. Other old-growth forest community types are present, but make up a smaller proportion of the landscape within this allocation. The forest communities within these areas typically contain large diameter, "flattop" southern pine trees, with some of the xeric hardwood communities containing smaller trees in both diameter and height. Dead, dying, and down trees are common. The forest canopies typically are continuous, interspersed with small gaps from natural causes. The communities also have open forest canopies and understories due to the presence of frequent fires.

The reintroduction of pulsed; high and low, intensity fire is the key to the restoration and maintenance of table mountain and pitch pine forests in the southern Appalachian mountains (Chuck Williams, 1998). In addition, use of commercial and non-commercial timber management may occur to regenerate southern yellow pine stands when loss of seed viability from insect or disease outbreaks is imminent. Scarification of the soil, and creation of conditions for yellow pine regeneration can be accomplished with prescribed fire and/or conventional ground-based logging activities.

To date, no species or species group has been identified as being dependent upon old growth forest communities on the Jefferson National Forest; however, much is still unknown about many species. However, old growth forest communities may serve as suitable habitat for some species associates. For example, the pine warbler and northern pine snake are associated with mature pine forest communities, so this management prescription will provide suitable to optimum habitat for these species. This "coarse filter" approach of providing a representation of the different old growth forest communities

**6B OLD GROWTH
FOREST
COMMUNITIES
DEPENDENT ON
FIRE**

helps to address overall biological diversity goals and provides a “biological safety net.”

The landscape character is natural appearing. These areas will provide a variety of recreation opportunities. Human activities may be evident in some places. Visitors will occasionally see other people especially near the few open roads in these areas. A non-motorized trail system will provide the predominant means of access. Closed roads are available for non-motorized uses. Outdoor skills are important for visitors in the more remote portions of these areas. Hiking, nature study, backpacking, hunting, and fishing are typical activities available.

Some of these old growth communities lie within the foreground the Appalachian National Scenic Trail. Within the foreground of the Appalachian Trail, management practices are designed to achieve the desired condition of this management prescription as well as protect the Appalachian Trail experience, strengthen the role of volunteers and volunteer organizations, provide opportunities for high quality outdoor recreation experiences, and provide for the conservation and enjoyment of the nationally significant scenic, historic, natural and cultural qualities of the land through which the Appalachian Trail passes.

OBJECTIVES

6B-OBJ1 Plan prescribed fires at 7-12 year intervals.

STANDARDS

General

6B-001 The following forest types are allocated to this management prescription when new discoveries of old growth communities that meet the criteria stated in the Forestwide direction are made: 15, 16, 20, 33, 38 or 39 (See Appendix D).

Terrestrial and Aquatic Species

6B-002 Wildlife habitat is maintained through prescribed fire. Current openings are maintained through prescribed fire. New openings are not purposefully created, but will occur through fire. Do not develop new water holes.

6B-003 Up to 4 percent of this prescription area may be in early successional habitat conditions as a result of natural disturbances, prescribed fire, and timber harvest specifically designed to restore the old growth forest community.

Vegetation and Forest Health

6B-004 With the exception of southern pine beetle, native forest insect and disease outbreaks are controlled only to prevent unacceptable damage to resources on adjacent land or to protect threatened, endangered, and sensitive species. Non-native, invasive insects and diseases may be eradicated or suppressed to prevent a loss of the old growth community. Favor biological control methods.

6B-005 Generally, **Southern pine beetle** should be considered a natural part of these ecosystems. However, in epidemic situations, Southern pine beetle may be controlled, on a case-by-case basis, if necessary to maintain the southern yellow pine community.

6B-006 Limit **gypsy moth** control actions outside of the Animal and Plant Health Inspection Service (APHIS) quarantine area to Slow the Spread and eradication of isolated outbreaks in these communities.

6B-007 Herbicides may be used to manipulate species composition, open up the

- understory, and eradicate or suppress non-native invasive plants.
- 6B-008 Allow vegetation management activities to:
- ▶ Maintain or restore native southern yellow pine communities;
 - ▶ Restore, enhance, or mimic historic fire regimes;
 - ▶ Improve threatened, endangered, sensitive, and locally rare species habitat;
 - ▶ Maintain rare communities and species dependent on disturbance;
 - ▶ Suppressor control insect and disease outbreaks;
 - ▶ Control non-native invasive vegetation; or
 - ▶ Provide for public health and safety.

**6B OLD GROWTH
FOREST
COMMUNITIES
DEPENDENT ON
FIRE**

Timber Management

- 6B-009 These lands are classified as unsuitable for timber production. Vegetation management may be accomplished with commercial timber sales as an appropriate method of reducing costs associated with these activities.
- 6B-010 Use only even-aged silvicultural systems, predominately clearcutting and seed tree cutting.
- 6B-011 Leave the largest and oldest yellow pine trees as a seed source, otherwise cut and remove all competing hardwoods and softwoods if merchantable.
- 6B-012 Regeneration units range from 5-40 acres in size.
- 6B-013 Salvage of dead and dying trees is allowed to prepare a seedbed or to control pest problems.

Prescribed Fire and Wildland Fire Use

- 6B-014 Prescribed fire is emphasized to restore and maintain old-growth conditions. Fire is applied at varying intensities to achieve resource objectives.
- 6B-015 Prescribed fires are designed to remove the oak leaf litter and duff layer, which inhibit pine development.

Recreation

- 6B-016 Any new trail construction or reconstruction must be carefully located to avoid adverse impacts to old growth characteristics and rare plants. Emphasize trails that appear to be part of the environment.
- 6B-017 When these areas are accessible to the public, provide informational and educational materials explaining old growth functions and values and how people can help protect these areas from overuse.
- 6B-018 Do not designate any OHV roads or trails within these areas.

Appalachian National Scenic Trail

- 6B-019 Within the foreground of the Appalachian Trail, all activities will be planned and carried out in cooperation with the appropriate Appalachian Trail management partner(s). See Management Prescription 4A for additional management direction applicable to this corridor.

6B OLD GROWTH FOREST COMMUNITIES DEPENDENT ON FIRE

Scenery

6B-020 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	H	M	M	M	L	L

Range

6B-021 Livestock grazing is not permitted.

Minerals

6B-022 These areas are available for federal oil and gas leasing with controlled surface use to protect old growth resources and values. Other Federal minerals may be available on a case-by-case basis after full consideration of effects on the old growth community.

6B-023 Federal oil and gas leases exist in some of these areas on the Clinch Ranger District. Roads, wells, and other necessary infrastructure associated with these leases are allowed. Existing lease stipulations are used to minimize disturbance to the old growth community.

6B-024 These areas are not available for mineral materials for commercial, personal, or free use purposes. Administrative use of mineral materials is allowed: to protect old growth resources and values; to restore riparian areas and aquatic habitat; to control erosion and sedimentation; and to repair flood damage.

6B-025 Private mineral rights underlie some of these areas on the Clinch Ranger District. Roads, wells, and other necessary infrastructure associated with these rights are allowed. Requests for access to a non-Federal interest in lands pursuant to a reserved or outstanding right are recognized, and reasonable access is granted. Encourage such interests to minimize disturbance to the old growth community.

Roads

6B-026 Maintain a transportation system adequate for frequent prescribed fire activities.

6B-027 Road construction and reconstruction are allowed to manage resources within these areas. Design roads to minimize impact to the old growth community.

6B-028 Do not increase current open system road density levels calculated across each prescription block.

Lands and Special Uses

6B-029 These areas are unsuitable for designation of new utility corridors, utility rights-of-way, or communication sites. Existing uses are allowed to continue.

6B-030 Authorize other special uses, like outfitter/guide operations, if consistent and compatible with the goals and objectives of these areas.

6C OLD-GROWTH FOREST COMMUNITIES ASSOCIATED WITH DISTURBANCE

6C OLD GROWTH FOREST COMMUNITIES ASSOCIATED WITH DISTURBANCE

This management prescription is allocated to approximately 30,200 acres (4%) across the Jefferson National Forest.

EMPHASIS:

This prescription is part of an overall network of large (2,500+ acres), medium (100 to 2,499 acres), and small old growth patches associated with a disturbance regime. Management of these areas emphasizes protection, restoration, and management of old growth forests and their associated wildlife, botanical, recreational, scientific, educational, cultural, and spiritual values. Within this prescription, most of the area will contain forest communities where no forest management activities or intervention will take place. On a smaller portion of the area, forest management activities are allowed in order to restore or maintain old-growth conditions.

DESIRED CONDITION:

The area mostly contains a representation of the forest community types associated with a disturbance regime. Most of the old growth forest community types can occur in these areas and include dry-mesic oak forest, dry and xeric oak forest, dry and dry-mesic oak-pine forest. Dead, dying, and down trees are common. Most of the area will contain forest canopies that are continuous, interspersed with small gaps from natural causes, with little evidence of past human activity. A small number of areas will have open forest canopies and understories due to the present of frequent fires, while other areas will have evidence of some forest management activities. These lands are classified as unsuitable for timber production.

Wildland fire use, prescribed fire, and integrated pest management are appropriate management tools to: maintain and restore the represented old growth forest community type; improve threatened, endangered, sensitive, and locally rare species habitat; restore, enhance, or mimic historic fire regimes; or control non-native invasive vegetation and pests.

Some of these communities are located in situations where topography, external values at risk, or other factors eliminate the possibility of prescribed fire or wildland fire use. In these situations, low intensity timber harvest may be used to mimic historic fire regimes. Without intervention, these areas will gradually shift through natural succession to more shade-tolerant and less fire-resistant forest communities. These successional processes are monitored and if maintenance of these communities are desirable for the future, they need to be moved to a different management prescription.

To date, no species or species group has been identified as being dependent upon old growth forest communities on the Jefferson National Forest; however, much is still unknown about many species. However, old growth forest communities may serve as suitable habitat for some species associates. For example, the hooded warbler and orchard oriole are associated with mature oak forest communities, so this management prescription will provide suitable to optimum habitat for these species. This "coarse filter" approach of providing a representation of the different old growth forest communities helps to address overall biological diversity goals and provides a "biological safety net."

The landscape character is natural appearing. These areas will provide a variety of recreation opportunities. Human activities may be evident in some places. Visitors will occasionally see other people especially near the few open roads in these areas. A non-motorized trail system will provide the predominant means of access. Closed roads are

**6C OLD GROWTH
FOREST
COMMUNITIES
ASSOCIATED WITH
DISTURBANCE**

available for non-motorized uses. Outdoor skills are important for visitors in the more remote portions of these areas. Hiking, nature study, backpacking, hunting, and fishing are typical activities available.

Some of these old growth communities lie within the foreground the Appalachian National Scenic Trail. Within the foreground of the Appalachian Trail, management practices are designed to achieve the desired condition of this management prescription as well as protect the Appalachian Trail experience, strengthen the role of volunteers and volunteer organizations, provide opportunities for high quality outdoor recreation experiences, and provide for the conservation and enjoyment of the nationally significant scenic, historic, natural and cultural qualities of the land through which the Appalachian Trail passes.

OBJECTIVES

- 6C-OBJ1 Plan prescribed fires at 10-15 year intervals, more frequently as necessary to reduce unusually high fuel buildups.
- 6C-OBJ2 Maintain an open road density at or below .8 miles per square mile.

STANDARDS

General

- 6C-001 All forest types not previously mentioned under 6A and 6B are allocated to this management prescription when new discoveries of old growth communities that meet the criteria stated in the Forestwide direction (See Appendix D).

Terrestrial and Aquatic Species

- 6C-002 Wildlife habitat is maintained through prescribed fire. Current openings are maintained through prescribed fire. New openings are not purposefully created, but will occur through fire. Do not develop new water holes.
- 6C-003 Up to 4 percent of this prescription area may be in early successional habitat conditions as a result of natural disturbances, prescribed fire, and timber harvest specifically designed to restore the old growth forest community.

Vegetation and Forest Health

- 6C-004 Native forest insect and disease outbreaks are controlled only to prevent unacceptable damage to resources on adjacent land or to protect threatened, endangered, and sensitive species. Non-native, invasive insects and diseases may be eradicated or suppressed to prevent a loss of the old growth community. Favor biological control methods.
- 6C-005 Suppression, eradication, and Slow the Spread actions to control **gypsy moth** infestations are allowed.
- 6C-006 Herbicides may be used to manipulate species composition, open up the understory, and eradicate or suppress non-native invasive plants.
- 6C-007 Allow vegetation management activities to:
- ▶ Maintain and restore dry-mesic oak forest, dry and xeric oak forest, dry and dry-mesic oak-pine old growth forest communities;
 - ▶ Restore, enhance, or mimic historic fire regimes;
 - ▶ Reduce fuel buildups;
 - ▶ Maintain rare communities and species dependent on disturbance;

- ▶ Provide for public health and safety;
- ▶ Improve threatened, endangered, sensitive, and locally rare species habitat;
- ▶ Control non-native invasive vegetation

6C-008 Felling and leaving of individual trees is allowed for public safety and trail maintenance within appropriate trail clearing limits.

Timber Management

6C-009 These lands are classified as unsuitable for timber production. Vegetation management may be accomplished with commercial timber sales as an appropriate method of reducing costs associated with these activities.

6C-010 Salvage of dead and dying trees is only allowed when necessary to prepare a seedbed or to control pest problems.

Prescribed Fire and Wildland Fire Use

6C-011 Prescribed fire is emphasized to restore and maintain old-growth conditions. Fire is applied at varying intensities to achieve resource objectives.

6C-012 Prescribed fires are designed to remove the oak leaf litter and duff layer, which inhibit pine development.

Recreation

6C-013 Any new trail construction or reconstruction must be carefully located to avoid adverse impacts to old growth characteristics and rare plants. Emphasize trails that appear to be part of the environment.

6C-014 When these areas are accessible to the public, provide informational and educational materials explaining old growth functions and values and how people can help protect these areas from overuse.

6C-015 Do not construct any OHV roads or trails within these areas.

Appalachian National Scenic Trail

6C-016 Within the foreground of the Appalachian Trail, all activities will be planned and carried out in cooperation with the appropriate Appalachian Trail management partner(s). See Management Prescription 4A for additional management direction applicable to this corridor.

Scenery

6C-017 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	H	M	M	M	L	L

6C-018 Management activities are designed to meet or exceed a high Scenic Integrity Objective in semi-primitive non-motorized areas within this prescription area, subject to valid rights and leases.

Range

6C-019 Livestock grazing is not permitted.

6C OLD GROWTH FOREST COMMUNITIES ASSOCIATED WITH DISTURBANCE

Minerals

6C-020 These areas are available for federal oil and gas leasing with controlled surface use to protect old growth resources and values. Other Federal minerals may be available on a case-by-case basis after full consideration of effects on the old growth community.

7A SCENIC BYWAY CORRIDORS

6C-021 Federal oil and gas leases exist in some of these areas on the Clinch Ranger District. Roads, wells, and other necessary infrastructure associated with these leases are allowed. Existing lease stipulations are used to minimize disturbance to the old growth community.

6C-022 These areas are not available for mineral materials for commercial, personal, or free use purposes. Administrative use of mineral materials is allowed: to protect old growth resources and values; to restore riparian areas and aquatic habitat; to control erosion and sedimentation; and to repair flood damage.

6C-023 Private mineral rights underlie some of these areas on the Clinch Ranger District. Roads, wells, and other necessary infrastructure associated with these rights are allowed. Requests for access to a non-Federal interest in lands pursuant to a reserved or outstanding right are recognized, and reasonable access is granted. Encourage such interests to minimize disturbance to the old growth community.

Roads

6C-024 New roads may be constructed through these areas only when they are situated on the landscape in such a way that going around them is not an option. Design roads to minimize impact to the old growth community.

6C-025 Unneeded roads may be decommissioned; however, it is important to maintain a transportation system adequate for frequent prescribed fire activities.

Lands and Special Uses

6C-026 These areas are unsuitable for designation of new utility corridors, utility rights-of-way, or communication sites. Existing uses are allowed to continue.

6C-027 Authorize other special uses, like outfitter/guide operations, if consistent and compatible with the goals and objectives of these areas.

7A SCENIC BYWAY CORRIDORS

This management prescription is allocated to approximately 1,800 acres (< 1%) across the Jefferson National Forest.

EMPHASIS:

Scenic byway corridors are managed to provide visitors with enjoyment of outstanding scenery of natural and cultural landscapes along a well-maintained road. The area may also contain recreational and interpretive trails. The area visible during leaf-off for up to 1/2 mile from either side of the road defines the byway corridor, unless other criteria are established in the specific scenic byway management plan. Management is focused on protecting and showcasing the unique and scenic natural and cultural resources, which were the basis for the scenic byway designation.

DESIRED CONDITION:**7A SCENIC
BYWAY
CORRIDORS**

The area provides exceptional opportunities for motorized recreation, especially scenic driving. The views along the byway are natural appearing and include a variety of landscape characters, ranging from natural appearing to pastoral and historic/cultural, providing colorful accents and interesting textures, which change with the season. Visitors enjoy viewing wildlife in the occasional openings and meadows scattered throughout the forest. Water, geographic features, and cultural landscapes such as hay fields, grazing livestock, and the occasional rustic cabin provide scenic diversions to the predominately forested landscape. Road corridor improvements and interpretive facilities are evident changes to the natural environment, but these man-made alterations fit well with the character of the surrounding landscape. Other management activities are not evident to the average visitor.

The prescription area is easily accessed. Maintaining a good road surface and providing informational signs for protection of the natural and cultural resources as well as the safety and comfort of visitors minimize impacts of visitors within the prescription area.

The potential for encounters with other Forest visitors is moderate to high, especially at byway facilities, which include pullouts, overlooks, interpretive kiosks, trails, restrooms, and picnic sites. Scenic, historic and/or natural resources are interpreted for the benefit of visitors. These recreation and interpretive facilities are designed and constructed to blend well and complement the natural or cultural environment surrounding the byway. There are limited opportunities for remoteness, although visiting the byway in the winter (if it is not seasonally closed) or mid-week improves opportunities for seeking solitude. There is low risk and little need for visitors to rely on personal physical abilities or primitive outdoor recreation skills. Most, if not all, facilities are designed to accommodate persons with disabilities.

Vegetation is influenced both by natural processes and humans. Biological communities are maintained or improved to provide an attractive setting for visitors, while providing for the protection of rare communities and threatened, endangered, sensitive, and locally rare species. Forest management activities maintain the natural characteristics that make the area scenic. Low intensity commercial timber harvest is appropriate to maintain the long-term goals of a diverse and vigorous forest with sensitivity to dispersed recreation and scenic values. Timber harvesting operations focus on what is retained in the stand, not on wood fiber production. Timber harvest practices are visually subordinate to the surrounding landscape. In the foreground of these areas, management activities are rarely evident to the casual observer.

These areas are characterized by a predominance of mid- and late-successional forests with a high to intermediate tolerance to shade. Forest structure varies according to ecological factors, but largely consists of a mature overstory of hardwoods, occasionally mixed with pines, a fairly open midstory, and a well-developed herbaceous and shrubby understory. Understory vegetation includes a variety of native deciduous and evergreen flowering trees, shrubs and wildflowers. Even- and uneven-aged forest communities are managed throughout the area, along with continued development of medium and small patches of late successional to old growth forest communities. Up to four percent of forested land may be in early-successional forest conditions created both naturally and purposefully when compatible with the scenic objectives of the byway corridor; however, no early successional habitat objectives are associated with this prescription. Wildlife viewing opportunities are maintained and expanded through livestock grazing, cultivation, mowing, and burning of openings and pastoral areas.

**7A SCENIC
BYWAY
CORRIDORS**

STANDARDS

Terrestrial and Aquatic Species

- 7A-001 Wildlife and fisheries habitat improvements are allowed to enhance wildlife viewing, hunting, and fishing opportunities in accordance with scenic integrity objectives. Watchable wildlife species habitat improvements are encouraged.
- 7A-002 Existing old fields, pastoral areas, and wildlife openings may be present and maintained. Expansion of existing openings and/or creation of new openings may occur. Non-invasive non-natives are sometimes used when establishing food plants for wildlife, but native species are preferred. Some openings provide permanent shrub/sapling habitats as a result of longer maintenance cycles.

Rare Communities and Old Growth

- 7A-003 Old growth patches of all sizes and community types are maintained and restored.
- 7A-004 Interpretation of rare communities is encouraged when carefully controlled to promote understanding and stewardship.

Vegetation and Forest Health

- 7A-005 Forest structure is managed to favor flowering trees and shrubs.
- 7A-006 Control insect and disease outbreaks, when necessary, to protect the scenic values, to reduce hazards to visitors, or for safety or legal reasons. Eradicate recently established non-native pests when possible. Favor the most effective control method.
- 7A-007 Salvage is allowed for scenic rehabilitation, fuel reduction, and to capture the economic value of dead, dying and diseased trees.
- 7A-008 Allow vegetation management activities to:
- ▶ Enhance or rehabilitate scenery, including:
 - Create aesthetically desired stand structure and species composition including a pleasing mosaic of tree species of various densities and stem sizes, park-like effects, and enhancement of fall color species;
 - Feature flowering trees, character trees, and shrub species;
 - Maintain open areas, old field habitats, pastoral settings, and vistas that enhance the scenic qualities of the corridor;
 - ▶ Maintain developed recreation facilities, including roads and trails;
 - ▶ Enhance both game and non-game wildlife habitat;
 - ▶ Improve threatened, endangered, sensitive, and locally rare species habitat;
 - ▶ Maintain rare communities and species dependent on disturbance;
 - ▶ Reduce fuel buildups;
 - ▶ Minimize impacts from insect or disease outbreaks and rehabilitate damaged areas;
 - ▶ Control non-native invasive vegetation; or
 - ▶ Provide for public health and safety.

Timber Management**7A SCENIC
BYWAY
CORRIDORS**

- 7A-009 These lands are classified as unsuitable for timber production. Vegetation management may be accomplished with commercial timber sales as an appropriate method of reducing costs associated with these activities.
- 7A-010 Clearcutting may only be used to open up vistas, create spatial diversity along travelways, decrease straight line effect of cleared utility corridors, create watchable wildlife openings, for insect and disease suppression, or for scenic rehabilitation.

Prescribed Fire and Wildland Fire Use

- 7A-011 Vegetation management may be accomplished with management-ignited prescribed fire, wildland fire use, and mechanical treatments as an appropriate method of reducing costs associated with these activities.

Recreation

- 7A-012 Interpretive services such as trails, signs, viewing areas, self-guided programs, and buildings are provided to enhance the understanding of, and appreciation for the natural environment, cultural resources, and the byway's special features.
- 7A-013 Larger scale public use facilities, such as public information centers and administrative headquarters are allowed with structures properly landscaped.
- 7A-014 OHV routes that quickly leave the seen area and trailheads may be designated.

Scenery

- 7A-015 Short-term scenic integrity objectives of rehabilitation and enhancement may be used until scenic integrity objectives are achieved.
- 7A-016 These areas are managed to meet a scenic integrity objective of high.
- 7A-017 Manage to maintain and enhance the Rural Americana theme for the Mount Rogers NRA.

Minerals

- 7A-018 These corridors are available for federal oil and gas leasing with controlled surface use to protect the scenic resources and values. Other Federal minerals may be available on a case-by-case basis after full consideration of effects on scenic resources and values.
- 7A-019 Permit mineral materials for commercial, personal, free, and administrative use purposes with conditions to protect the scenic resources and values.
- 7A-020 Permit new borrow pits, provided they meet the scenic integrity objective. Rehabilitate or reclaim existing borrow pits that are currently not meeting the scenic integrity objective.

Roads

- 7A-021 Permit new access roads, provided they quickly enter and leave the seen area and do not parallel existing travelways.
- 7A-022 All roads, facilities, and signing are designed to blend in with surroundings.

Lands and Special Uses

- 7A-023 These areas are unsuitable for designation of new utility corridors, utility

**7A SCENIC
BYWAY
CORRIDORS**

rights-of-way, or communication sites. Continue existing uses. Require necessary mitigation techniques, including screening, feathering, and other vegetation management techniques to mitigate the visual and other impacts of new or upgraded, utility corridors or communication sites.

**7B SCENIC
CORRIDORS**

- 7A-024 Allow agricultural special-use authorizations to maintain open and pastoral spaces.
- 7A-025 Authorize other special uses if consistent and compatible with the goals and objectives of this area.

7B SCENIC CORRIDORS

This management prescription is allocated to approximately 23,500 acres (3%) across the Jefferson National Forest.

EMPHASIS:

The emphasis is on providing, through maintenance or restoration and design, high quality scenery in sensitive recreational and travelway settings. Examples include areas adjacent to "gateway" communities, areas around lakes, rivers, and "backdrop" areas viewed from State-designated byways and major travelways.

DESIRED CONDITION:

These areas are characterized by high quality scenery in a setting conducive to a variety of recreational experiences. Human modifications are subordinate to the characteristic landscape. Landscape restoration and rehabilitation to meet high quality scenic conditions are a high priority. Coordination with nearby communities will help provide complementary management of adjoining lands.

The area provides exceptional opportunities for motorized recreation, especially scenic driving. The views along the corridors are natural appearing and include a variety of landscape characters, ranging from natural appearing to pastoral and historic/cultural, providing colorful accents and interesting textures, which change with the season. Visitors enjoy viewing wildlife in the occasional openings and meadows scattered throughout the forest. Water, geographic features, and cultural landscapes such as hay fields, grazing livestock, and the occasional rustic cabin provide scenic diversions to the predominately forested landscape. Road corridor improvements and interpretive facilities are evident changes to the natural environment, but these man-made alterations fit well with the character of the surrounding landscape. Other management activities are not evident to the average visitor.

The prescription area is easily accessed. Maintaining a good road surface and providing informational signs for protection of the natural and cultural resources as well as the safety and comfort of visitors minimize impacts of visitors within the prescription area.

Hiking, mountain biking, and horse trails are present throughout the prescription area. OHV trails may be present, but new trails are not constructed except where desired to link existing trail systems. In addition to enjoying the scenery and using various trails, visitors may engage in photography, wildlife viewing, hunting, and fishing. Facilities are designed to harmonize with the desired landscape setting. Facilities might include roads, pullouts, overlooks, parking areas, trailheads, bulletin boards, interpretive kiosks, rail fences, signs, restrooms, and picnic sites. Trails through this area are well-marked and may include features for visitors with special access needs, loop systems, and/or interpretive programs.

The sights and sounds of other visitors and motorized vehicles may be present. The opportunity to encounter other visitors is high along roadways, at parking areas, pullouts, and overlooks, but may be moderate to low on trails away from congregated use areas. At points of highly developed recreational use, visitors take on low risk and are not challenged to rely on their own physical abilities and outdoor skills. Once away from the more developed areas, opportunities for solitude are available. In these more remote areas, visitors may take on some risk and be challenged to rely on their own personal physical abilities and primitive recreational skills such as bouldering, climbing, stream fording, and orienteering.

Vegetation is influenced both by natural processes and humans. Biological communities are maintained or improved to provide an attractive setting for visitors, while providing for the protection of rare communities and threatened, endangered, sensitive, and locally rare species. Forest management activities maintain the natural characteristics that make the area scenic. Up to four percent of forested land may be in early-successional forest conditions created both naturally and purposefully to create visually diverse vegetation stages compatible with scenic values. Low intensity commercial timber harvest is appropriate to maintain the long-term goals of a diverse and vigorous forest with sensitivity to dispersed recreation and scenic values. Relatively longer rotation ages and a lower percentage of early successional forest in these areas reflect a “low intensity” approach to vegetation management and the higher priority of recreation and scenic values. Timber harvesting operations focus on what is retained in the stand, not on wood fiber production. Timber harvest practices are visually subordinate to the surrounding landscape. In the foreground of these areas, management activities are rarely evident to the casual observer.

These areas are characterized by a predominance of mid- and late-successional forests with a high to intermediate tolerance to shade. Forest structure varies according to ecological factors, but largely consists of a mature overstory of hardwoods, occasionally mixed with pines, a fairly open midstory, and a well-developed herbaceous and shrubby understory. Understory vegetation includes a variety of native deciduous and evergreen flowering trees, shrubs and wildflowers. Even- and uneven-aged forest communities are managed throughout the area, along with continued development of medium and small patches of late successional to old growth forest communities.

Wildlife species associated with mid- to late-successional deciduous forest habitats that are expected to inhabit this area include: hooded warbler, southern pigmy shrew; whip-poor-will; least weasel, downy woodpecker; eastern gray squirrel; and orchard oriole. This management prescription also provides suitable habitat for eastern wild turkey. Wildlife viewing opportunities are maintained and expanded through livestock grazing, cultivation, mowing, and burning of openings and pastoral areas.

STANDARDS

Terrestrial and Aquatic Species

- 7B-001 Wildlife and fisheries habitat improvements are allowed to enhance wildlife viewing, hunting, and fishing opportunities in accordance with scenic integrity objectives. Watchable wildlife species habitat improvements are encouraged.
- 7B-002 Existing old fields, pastoral areas, and wildlife openings may be present and maintained. Expansion of existing openings and/or creation of new openings may occur. Non-invasive non-natives are sometimes used when establishing food plants for wildlife, but native species are preferred. Some openings provide permanent shrub/sapling habitats as a result of longer maintenance cycles.

7B SCENIC
CORRIDORS**Rare Communities and Old Growth**

- 7B-003 Old growth patches of all sizes and community types are maintained and restored.
- 7B-004 Interpretation of rare communities is encouraged when carefully controlled to promote understanding and stewardship.

Vegetation and Forest Health

- 7B-005 Forest structure is managed to favor flowering trees and shrubs.
- 7B-006 Control insect and disease outbreaks, when necessary, to protect the scenic values, to reduce hazards to visitors, or for safety or legal reasons. Eradicate recently established non-native pests when possible. Favor the most effective control method.
- 7B-007 Allow vegetation management activities to:
- ▶ Enhance or rehabilitate scenery, including:
 - Create aesthetically desired stand structure and species composition including a pleasing mosaic of tree species of various densities and stem sizes, park-like effects, and enhancement of fall color species;
 - Feature flowering trees, character trees, and shrub species;
 - Maintain open areas, old field habitats, pastoral settings, and vistas that enhance the scenic qualities of the corridor;
 - ▶ Maintain developed recreation facilities, including roads and trails;
 - ▶ Enhance both game and non-game wildlife habitat;
 - ▶ Improve threatened, endangered, sensitive, and locally rare species habitat;
 - ▶ Maintain rare communities and species dependent on disturbance;
 - ▶ Reduce fuel buildups;
 - ▶ Minimize impacts from insect or disease outbreaks and rehabilitate damaged areas;
 - ▶ Control non-native invasive vegetation; or
 - ▶ Provide for public health and safety.
- 7B-008 Salvage is allowed for scenic rehabilitation, fuel reduction, and to capture the economic value of dead, dying and diseased trees.

Timber Management

- 7B-009 These areas are classified as suitable for timber production. Timber harvest practices are modified to recognize and enhance the aesthetic and recreational values of these lands.
- 7B-010 Group selection, individual tree selection, thinning, and shelterwood harvests are predominately used.
- 7B-011 Clearcutting may only be used to open up vistas, create spatial diversity along travelways, decrease straight line effect of cleared utility corridors, create watchable wildlife openings, for insect and disease suppression, or for scenic rehabilitation.

7B-012 Manage regeneration harvest areas with the following rotation ages:

7B SCENIC CORRIDORS

Upland hardwoods	120-180
Cove hardwoods	120-180
White pine	80-100
Yellow pine	80-100
Scarlet oak/Black oak	80-100

Prescribed Fire and Wildland Fire Use

7B-013 Vegetation management may be accomplished with management-ignited prescribed fire, wildland fire use, and mechanical treatments as an appropriate method of reducing costs associated with these activities.

Recreation

7B-014 Interpretive services including trails, signs, viewing areas, self-guided programs, and buildings are provided to enhance the understanding of, and appreciation for the natural environment, and cultural resources.

7B-015 Larger scale public use facilities, such as public information centers and administrative headquarters are allowed with structures properly landscaped.

7B-016 OHV trailheads and routes that quickly leave the seen area may be designated.

Scenery

7B-017 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	H	M	M	M	M	M

7B-018 Short-term scenic integrity objectives of rehabilitation and enhancement may be used until scenic integrity objectives are achieved.

7B-019 Manage to maintain and enhance the Rural Americana theme for the Mount Rogers NRA.

Minerals

7B-020 These corridors and viewsheds are available for federal oil and gas leasing with controlled surface use to protect the scenic resources and values. Other Federal minerals may be available on a case-by-case basis after full consideration of effects on scenic resources and values.

7B-021 Permit mineral materials for commercial, personal, free, and administrative use purposes with conditions to protect the scenic resources and values.

7B-022 Permit new borrow pits, provided they meet the scenic integrity objective. Rehabilitate or reclaim existing borrow pits that are currently not meeting the scenic integrity objective.

Roads

7B-023 Permit new access roads, provided they quickly enter and leave the seen area and do not parallel existing travelways.

7B-024 All roads, facilities, and signing are designed to blend in with surroundings.

**7B SCENIC
CORRIDORS**

Lands and Special Uses

- 7B-025 These areas are unsuitable for designation of new utility corridors, utility rights-of-way, or communication sites. Continue existing uses. Require necessary mitigation techniques, including screening, feathering, and other vegetation management techniques to mitigate the visual and other impacts of new or upgraded, utility corridors or communication sites.
- 7B-026 Allow agricultural special-use authorizations to maintain open and pastoral spaces.
- 7B-027 Authorize other special uses if consistent and compatible with the goals and objectives of this area.

**7C OHV ROUTES
AND ATV USE
AREAS**

7C OHV ROUTES AND ATV USE AREAS

This management prescription for Off-Highway Vehicle (OHV) routes and All-Terrain Vehicle (ATV) use areas is allocated to approximately 1,500 acres (< 1%) across the Jefferson National Forest. The only ATV use area currently designated on the Jefferson National Forest is the Patterson Mountain ATV area on the New Castle Ranger District. Demand exists for additional areas on the New River Valley and Clinch Ranger Districts, as well as the Mount Rogers NRA. ATV use areas are suitable for timber production. Other OHV routes (see Table 3-1) lie within larger prescription areas, which govern their surrounding vegetation management and desired conditions.

EMPHASIS:

Provide for motorized recreation opportunities in designated areas and along designated routes. These use areas and corridors contain routes designated specifically for licensed full size off road vehicle, ATV, and motorcycle users. Licensed full size off road vehicle routes are existing system roads designated for their challenging terrain and low impact to other resources. Licensed motorcycle routes include both designated system roads and trails. Designated ATV use areas are managed to mitigate soil, water, and wildlife impacts. Facilities such as trailheads are provided to enhance the quality of the recreational experience and provide access to designated routes.

DESIRED CONDITION:

OHV routes and use areas are managed to provide a variety of motorized recreation opportunities on identified routes in natural appearing settings. Routes are maintained, improved, or expanded to meet local demands. Trail difficulty levels vary to accommodate a variety of desires and abilities. Users are adequately advised of trail difficulty levels and hazards. Support facilities, including trailheads, parking lots, restrooms, water access, and information boards, are well designed to meet the needs of the visitor. Use areas, route information, and regulations are provided to make the visitors' experience more enjoyable. These routes and areas are managed and monitored to absorb moderate to high levels of use while protecting soil, water, and air resource conditions.

Maintenance is performed to protect the routes and minimize effects to soil and water resources. Routes may be closed seasonally or during inclement weather to protect resources. Off-route and other unauthorized OHV use is not allowed. When such use occurs to a chronic degree, the routes are closed permanently or until the situation is corrected. New routes are considered for development only when there is a demonstrated need, interest, and a developed partnership with user groups. New routes are evaluated using the OHV Screening Criteria outlined in Appendix J.

Types of OHVs

All-Terrain Vehicles (ATVs):
Unlicensed, three- or four-wheeled vehicles, 50 inches wide or less.

M o t o r c y c l e s :
Licensed or unlicensed.

Full size off road vehicles:
Licensed, over 50 inches wide, like Jeeps, with high clearance for traveling over rough terrain.

See also the Glossary in Appendix B.

Table 3-1. Jefferson National Forest Licensed Off Road Vehicle Routes

7C OHV ROUTES
AND ATV USE
AREAS

Name	Road No.	Miles	District
Mill Creek Road	229	6.3	New Castle
Potts Mtn. West-Black Rd	5023	3.5	New Castle
Potts Mtn. East	177.1	6.7	New Castle
Potts Mtn. Jeep Road	5036	6.8	New Castle
Price Mountain	5012	2.0	New Castle
Bailey Gap Road	177.4	3.7	New River Valley
Hogback Road	640	7.2	New River Valley
Walker Mountain Road	206	6.2	New River Valley
Wolf Creek Mountain Road	199	5.3	New River Valley
Total		47.7	

Additional desired conditions for full size off road vehicle routes are described under the management prescription in which the route is located.

ATV Use Area Desired Condition:

ATV use areas provide primarily motorized recreation opportunities. While motorized recreation is emphasized on designated routes, other routes could be used for hiking, mountain biking, and horseback riding. Other recreation opportunities such as hunting, fishing, and berry picking occur within the prescription area adjacent to the designated route corridors. Physical impacts are confined to the immediate trail or road profile and do not spread beyond. Though physical impacts from ATV use are confined to the immediate road or trail environment, sounds of motorized vehicles may be audible in other sections of the prescription area. Outdoor skills are of moderate or low importance for visitors except where knowledge of specialized activities such as driving ATVs is critical.

The landscape character is natural appearing with variations created by the recreational facilities. Recreationists enjoy traveling routes through a variety of landscapes. Along many of the routes, the views are restricted to the immediate foreground by vegetation and natural landform, but occasional openings reveal middleground or distant background vistas. Constructed routes blend well with the natural environment. Small created openings in the forest canopy may be apparent and visitors may see evidence of resource management activities; however, treatments blend with the natural landscape and vegetation diversity is enhanced over time. Constructed facilities are visually subordinate to the land.

A mix of forest successional stages will characterize use areas, with an emphasis on early-successional forests. Up to 16 percent of forested land may be in early-successional forest conditions; however, there are no early successional wildlife habitat objectives associated with this prescription. Lands within this prescription area are classified as suitable for timber production. Roads used or constructed to facilitate vegetation treatment are managed to provide non-conflicting access for both timber harvest and motorized recreation uses.

Wildlife species associated with early successional forest habitats and mixed landscapes expected to inhabit these areas include: eastern towhee, white-eyed vireo, least weasel, whip-poor-will, and orchard oriole. This management prescription also provides suitable habitat for ruffed grouse, eastern wild turkey and black bear. These areas provide excellent opportunities for wildlife viewing and hunting.

**7C OHV ROUTES
AND ATV USE
AREAS**

OHV ROAD AND TRAIL STANDARDS

- 7C-001 Locate OHV roads and trails outside riparian areas except at designated stream crossings. Use bridges or culverts at stream crossings where possible. When fords are used, provide at least 50 feet of gravel or other effective hardening/stabilization technique on stream approaches. Use erosion stone or larger rock to increase road-bearing strength at the water/land interface.
- 7C-002 Candidate OHV roads and trails are eliminated or mitigating measures are planned where soil movement cannot be kept within acceptable standards.
- 7C-003 Monitor soil and water impacts.

Roads

- 7C-004 Roads managed for licensed full size off road vehicles are open year round or seasonally with a C2 road management objective.
- 7C-005 Designated OHV routes remain open to public use unless unacceptable resource damage occurs.
- 7C-006 Favor repair, reconstruction, and relocation of portions of OHV routes receiving unacceptable resource damage over closing the entire route. When chronic problems occur the entire route may need to be closed.
- 7C-007 Include consideration of possible licensed full size off road vehicle routes in the roads analysis process.

ATV USE AREA STANDARDS

Water, Soil, and Air

- 7C-008 The trail system within each ATV use area must have a monitoring plan prior to establishment.

Terrestrial and Aquatic Species

- 7C-009 Limit creation of early-successional forest habitat to 16 percent of forested acres (based on the contiguous prescription area). Include naturally occurring patches of early successional forest two acres and greater in size when calculating allowable levels of early-successional forest creation.
- 7C-010 Existing old fields, pastoral areas, wildlife openings, and other wildlife habitat improvements may be present and maintained. Expansion of existing openings and/or creation of new openings may occur. Non-invasive non-natives are sometimes used when establishing food plants for wildlife, but native species are preferred. Some openings provide permanent shrub/sapling habitats as a result of longer maintenance cycles.

- 7C-011 Favor the retention of large (>20" d.b.h.²) standing snags and den trees when implementing silvicultural treatments.

Vegetation and Forest Health

- 7C-012 The forest health strategy is to diminish the occurrence of pest problems by managing host-type conditions at low hazard. Use appropriate and practical suppression of pests, both non-native and native, with all available tools as the normal practice.
- 7C-013 Assure salvage is rapid, complete, and emphasizes marketing timber before its value decreases.

² Diameter breast height, in other words, the diameter of the tree trunk as measured at 4 ½ feet above the ground.

Timber Management

**7C OHV ROUTES
AND ATV USE
AREAS**

- 7C-014 These areas are suitable for timber production.
- 7C-015 Use even and uneven-aged silvicultural systems. Thinning and group selection may be employed to increase the structural diversity of the prescription area.
- 7C-016 Regeneration units range from 5 to 40 acres in size.
- 7C-017 Regeneration harvest areas are primarily coppice with reserves with 15- 25 square feet of basal area per acre left to ensure adequate sunlight for oak regeneration and two-aged silvicultural systems which leave 20-40 square feet of basal area per acre. In order to provide vertical diversity and future mast production, leave trees with a mean diameter of the codominant trees in the stand.
- 7C-018 Clearcut harvest systems occur when necessary to achieve specific wildlife habitat objectives. Thinning and group selection silvicultural systems are also employed to provide the structural diversity required by some species within this habitat association.
- 7C-019 Manage regeneration harvest areas with the following rotation ages:

Upland hardwoods	80-100
Cove hardwoods	70-90
White pine	60-80
Yellow pine	70-90
Scarlet oak/Black oak	70-90

Prescribed Fire and Wildland Fire Use

- 7C-020 Prescribed fire and wildland fire use are allowed to: create openings that stimulate soft mast production and browse; encourage oak sprouting; maintain, restore, and enhance native forest communities; ensure the continued presence of fire-dependent ecosystems; improve threatened, endangered, sensitive, and locally rare species habitat; and reduce fuel buildups. It is also used in conjunction with site preparation to accomplish silvicultural treatments.

Recreation

Trail Design

- 7C-021 Design and locate the trail network to discourage illegal access to areas off the designated routes. Full advantage is taken of natural and man-made features to use as physical barriers to illegal use.
- 7C-022 Prioritize new route locations as follows: 1) Existing open or closed system roads, 2) Closed or obliterated roads, 3) New construction.
- 7C-023 Construct trail and road systems that include both single-track, narrow trails for the motorcycle and ATV user as well as roads that may be used for larger four-wheel drive vehicles and for timber removal.
- 7C-024 Minimize user conflicts and safety hazards that may exist with other recreation users and between full size four-wheel drive vehicle users and ATV and motorcycle users, through trail design, layout, and signing.
- 7C-025 Minimize adverse effects on the land and resources, through trail design, layout, and management. Minimize damage to soil, watershed, vegetation, wildlife habitat, or other natural, heritage, and historical resources, and disturbance of wildlife on the public lands.

7C OHV ROUTES AND ATV USE AREAS

7C-026 Plan timber removal concurrently with possible route locations and opportunities.

7C-027 Obliterate decommissioned routes through restoration to their natural profile and revegetate to prevent continued use.

7D CONCENTRATED RECREATION ZONES

Trail Management

7C-028 Actively recruit volunteer organizations through the Adopt-A-Trail program to become involved in the long-term construction and maintenance of trail systems.

7C-029 Relocate or close routes when unacceptable adverse effects occur or are likely to occur. The routes or trails remain closed until the adverse effects are eliminated and until measures are implemented to prevent recurrence.

7C-030 Relocate or close existing routes located in or adjacent to sensitive areas. Restore and revegetate unneeded old routes to their natural profile.

7C-031 Trail system designs with a series of loops are encouraged. This results in a more compact trail system that confines impacts.

Public Safety and Law Enforcement

7C-032 Promote public safety and effective law enforcement.

7C-033 Provide sanitary facilities in ATV areas.

7C-034 Within ATV areas, provide public information that, as a minimum, includes maps showing open, closed, and restricted routes and areas, as well as the conditions of such use.

Monitoring

7C-035 The effects of vehicle use, noise levels, enforcement of restrictions and closures are closely monitored and evaluated.

Scenery

7C-036 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	M	L	L	L	L	L

7D CONCENTRATED RECREATION ZONES

This management prescription is allocated to approximately 6,000 acres (1%) across the Jefferson National Forest.

EMPHASIS:

Concentrated Recreation Zones are managed to provide the public with a variety of recreational opportunities in visually appealing and environmentally healthy settings. Developed recreation areas, concentrated use areas, and areas of high density dispersed recreation activity form Concentrated Recreation Zones. Facilities are provided to enhance the quality of the recreational experience and/or to mitigate damage to the affected ecosystems. These areas also serve as "gateways" to the wide diversity of

recreation opportunities on the remainder of the forests.

DESIRED CONDITION:

Visitors are able to choose from a wide variety of recreation opportunities in high quality, well maintained developed or dispersed settings. Campgrounds, picnic sites, boat ramps, river access sites, swimming beaches, interpretive sites, primitive vehicle camps, rifle ranges, trailheads and concentrated trail systems, are all examples of facilities found in Concentrated Recreation Zones. Other facilities consistent with the mission and complimentary to the ecosystem may also be provided. Constructed facilities are normally visually subordinate to the land and depend on the development scale appropriate to the recreational opportunity spectrum class. Facilities outside the developed recreation sites are provided to protect resources. Facilities that provide for user convenience, as well as for protection of resources, are constructed and/or maintained in the developed recreation areas. Outdoor skills are generally of low importance except where knowledge of specialized activities, (i.e. boating or horseback riding) is critical. Trails through this area are well-marked and may include features for visitors with special access needs, loop systems, and/or interpretive programs. Motorized access and their support facilities (i.e. roads, parking lots, or water access) are emphasized, although non-motorized experiences (i.e. walking and viewing nature) are also often present.

Use may be highly concentrated in some spaces or relatively uncrowded in other sections of Concentrated Recreation Zones. Recreation information and regulations are provided to make the visitors' experience more enjoyable. Interpretive programs may also be offered to enhance the visitor's educational and recreational experience. Access to fishing, hunting, and nature study are emphasized. Fish stocking is appropriate for Concentrated Recreation Zones.

The landscape character is a cultural enclave in natural appearing surroundings. A visually appealing landscape is emphasized by providing an open park-like setting highlighting large diameter trees and featuring special attractions like rock outcroppings and waterfalls. Management activities maintain a healthy mid-successional forest of mixed hardwoods, hemlocks, and white pines. Understory vegetation includes a variety of native deciduous and evergreen flowering trees, shrubs and wildflowers. These areas may also include natural appearing open areas, balds, or pastoral landscapes. The scenic integrity objectives are in the upper values of high to moderate.

Some of these concentrated recreation areas are within the foreground of the Appalachian National Scenic Trail. Within the foreground of the Appalachian Trail, management practices are designed to achieve the desired condition of this management prescription as well as protect the Appalachian Trail experience, strengthen the role of volunteers and volunteer organizations, provide opportunities for high quality outdoor recreation experiences, and provide for the conservation and enjoyment of the nationally significant scenic, historic, natural and cultural qualities of the land through which the Appalachian Trail passes.

Vegetation is influenced to a large degree by humans, both through management for aesthetics and safety and through the high level of recreation use. Commercial timber harvest is appropriate to maintain the long-term goals of a diverse and vigorous forest emphasizing recreation, scenery, and visitor safety. Timber harvesting operations focus on what is retained in the forest, not on wood fiber production. Timber harvest is carefully timed and designed to be subtle. Integrated pest management is used to eradicate or suppress insects, diseases, and non-native, invasive vegetation.

Even and uneven-aged forest communities continue to develop throughout the area, along with medium and small patches of late successional to old growth forest communities. Up to four percent of forested land may be in early-successional forest

**7D
CONCENTRATED
RECREATION
ZONES**

conditions created both naturally and purposefully when compatible with the recreation and scenic objectives of the concentrated recreation area; however, no early successional habitat objectives are associated with this prescription. Wildlife viewing opportunities are maintained and expanded through livestock grazing, cultivation, mowing, and burning of openings and pastoral areas.

STANDARDS

Terrestrial and Aquatic Species

- 7D-001 Wildlife and fish habitat improvements are allowed to enhance wildlife viewing and fishing opportunities in a manner complimentary to the area. Existing wildlife openings, pastoral areas, or old fields may be maintained. Expansion of existing openings and/or creation of new openings may occur. Maintenance methods may include cultivation, grazing, mowing, and burning. Use of native species will be emphasized.
- 7D-002 Improvements appear natural and remain subordinate to the landscape. Watchable wildlife species habitat improvements are encouraged.
- 7D-003 Hunting is prohibited within developed recreation sites.

Vegetation and Forest Health

- 7D-004 The forest health strategy is to prevent the occurrence of pest problems by managing host-type conditions at low hazard. Aggressive suppression of pests, both non-native and native, with all available integrated pest management tools is normal practice. Favor the most effective control method. Salvage, cut and leave, and pruning are rapid and complete to protect the health and safety of visitors and facilities.
- 7D-005 Allow vegetation management activities to:
- ▶ Maintain developed and dispersed recreation facilities, including roads and trails;
 - ▶ Maintain open areas, old field habitats, pastoral settings, and vistas that enhance the scenic qualities of the recreation area;
 - ▶ Enhance or rehabilitate scenery, including:
 - Create aesthetically desired stand structure and species composition including a pleasing mosaic of tree species of various densities and stem sizes, park like effects, and enhancement of fall color species;
 - Feature flowering trees, character trees, and shrub species;
 - ▶ Enhance both game and non-game wildlife habitat;
 - ▶ Minimize impacts from insect or disease outbreaks and rehabilitate damaged areas;
 - ▶ Reduce fuel buildups;
 - ▶ Control non-native invasive vegetation; or
 - ▶ Provide for public health and safety.
- 7D-006 Prepare vegetation management plans that emphasize damage prevention practices for developed recreation areas.

Timber Management

- 7D-007 These lands are classified as unsuitable for timber production. Vegetation management may be accomplished with commercial timber sales as an appropriate method of reducing costs associated with these activities.
- 7D-008 Clearcutting may only be used to open up vistas, create spatial diversity along travelways, decrease straight line effect of cleared utility corridors, create watchable wildlife openings, for insect and disease suppression, or for scenic rehabilitation.

Wildland Fire Suppression

- 7D-009 Lightning fires are generally suppressed to minimize acreage burned due to high levels of public use and infrastructure investments in these areas.

Prescribed Fire and Wildland Fire Use

- 7D-010 Prescribed fire is permitted for vegetation management to meet scenery, landscape character and hazard fuels reduction objectives. In developed recreation areas, evidence of firelines is obliterated as soon as practicable.
- 7D-011 Wildland fire use is prohibited.

Recreation

- 7D-012 Concentrated-use areas are inspected annually and high-risk conditions are corrected, identified to the public, or the area is closed.
- 7D-013 A site safety inspection is completed annually. Documented high-risk conditions are corrected prior to seasonal use in all developed recreation areas.
- 7D-014 Rest rooms are provided, are functional and in good repair.
- 7D-015 To keep humans free from unhealthy exposures to human waste, the waste is removed immediately upon discovery or notification.
- 7D-016 High-risk site conditions that develop during the use season are mitigated or the site is closed.
- 7D-017 These areas are unsuitable for designation of ATV use areas, although trailheads and connecting trails to adjacent ATV use areas are allowed.
- 7D-018 Licensed OHV routes along existing roads may be designated in these areas.

Appalachian National Scenic Trail

- 7D-019 Within the foreground of the Appalachian Trail, all activities will be planned and carried out in cooperation with the appropriate Appalachian Trail management partner(s). See Management Prescription 4A for additional management direction applicable to this corridor.

Scenery

- 7D-020 The landscape character is natural appearing, pastoral, or historic with variations created by the recreational facilities.
- 7D-021 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	H	M	M	M	M	M

**7D
CONCENTRATED
RECREATION
ZONES**

7D-022 Rifle ranges are managed to meet or exceed a low scenic integrity objective across all scenic classes.

Roads

**7E1 DISPERSED
RECREATION
AREAS-
UNSUITABLE**

7D-023 All roads, facilities, and signing are designed to blend in with surroundings.

7D-024 The standard of road is commensurate with the recreation development level.

7D-025 Existing open public roads are maintained at or above current levels to provide for public access and safety.

7D-026 Road decommissioning is informed by a watershed-scale or site-specific road analysis.

Minerals

7D-027 These areas are available for federal oil and gas leasing with controlled surface use to protect the recreation resources and values. Other Federal minerals may be available on a case-by-case basis after full consideration of effects on recreation and scenery.

7D-028 These areas are not available for mineral materials for commercial, personal, or free use purposes. Administrative use of mineral materials is allowed when: a) the materials are used within the recreation area itself; and b) use is necessary to protect the resources and values of the area.

Lands and Special Uses

7D-029 These areas are unsuitable for new linear rights-of-way or communication sites, with the exception that local electrical distribution lines are allowed. Other special uses are authorized if consistent and compatible with the goals and objectives of these areas.

7E1 DISPERSED RECREATION AREAS—UNSUITABLE

This management prescription is allocated to approximately 19,600 acres (3%) across the Jefferson National Forest.

EMPHASIS:

These are areas of non-formal camping and recreational use in various locations across the forest. Dispersed recreation demand is managed to provide the public with a variety of recreation opportunities in a setting that provides quality scenery, trails, and limited facilities. These are frequently areas of low recreation use, low hunting use, and poor access.

DESIRED CONDITION:

Visitors are able to choose from a wide variety of non-motorized dispersed recreation opportunities such as hiking, mountain bike riding, rock climbing, nature study, hunting, fishing, and river running. Limited motorized access may be available in some parts of these areas.

Visitors seldom see other people in some parts of these areas. Trails are maintained, but seldom improved or expanded. Outdoor skills are of moderate importance for visitors except where knowledge of specialized activities such as horseback riding, mountain biking, rock climbing, and boating is critical. Construction of new facilities to increase recreation capacity is limited due to poor access.

These areas are unsuitable for timber production; however, commercial timber harvest is appropriate to maintain the long-term goals of a diverse and vigorous forest with sensitivity to dispersed recreation and scenic values. Prescribed fire, integrated pest management and commercial timber harvest are appropriate to manage vegetation. Integrated pest management is used to eradicate or suppress insects, diseases, and non-native, invasive vegetation. Wildland fires are used to restore and maintain historic fire regimes. Wildlife viewing opportunities are maintained through livestock grazing, cultivation, mowing, and burning of openings and pastoral areas.

**7E1 DISPERSED
RECREATION
AREAS—
UNSUITABLE**

These areas are characterized by a predominance of mid- and late-successional forests with a high to intermediate tolerance to shade. The valued natural appearing landscape character appears predominately intact with no noticeable deviations. Uneven-aged forest communities begin to develop throughout the area, along with large, medium and small patches of late successional to old growth forest communities. Structural diversity within mixed mesophytic and dry-to-mesic oak forest communities is enhanced through commercial and non-commercial vegetation management activities. Up to four percent of forested land may be in early-successional forest conditions created both naturally and purposefully when compatible with the recreation and scenic objectives of the area.

OBJECTIVES

7E1-OBJ1 Obtain rights-of-way or easements to increase access to these areas.

STANDARDS

Terrestrial and Aquatic Species

7E1-001 Existing old fields, wildlife openings, and other habitat improvements for fish and wildlife may be present and maintained, and expansion of openings or creation of new permanent openings of this type may occur. Native species are emphasized when establishing food plants for wildlife. Some openings provide permanent shrub/sapling habitat as a result of longer maintenance cycles.

Rare Communities and Old Growth

7E1-002 Old growth patches of all sizes and community types are maintained and restored.

Vegetation and Forest Health

7E1-003 Native forest insect and disease outbreaks are controlled only to prevent unacceptable damage to resources on adjacent land or to protect threatened, endangered, and sensitive species. Non-native, invasive insects and diseases may be eradicated or suppressed to prevent a loss of the old growth community. Favor biological control methods.

7E1-004 Eradicate non-native invasive plants when the infestations are isolated. Use approved hand-applied chemicals, when necessary.

7E1-005 Allow vegetation management activities to:

- ▶ Enhance or rehabilitate scenery;
- ▶ Improve threatened, endangered, sensitive, and locally rare species habitat;
- ▶ Maintain rare communities and species dependent on disturbance;
- ▶ Reduce fuel buildups;
- ▶ Restore, enhance, or mimic historic fire regimes;

7E1 DISPERSED RECREATION AREAS—UNSUITABLE

- ▶ Reduce insect and disease hazard;
- ▶ Control non-native invasive vegetation.
- ▶ Provide for public health and safety;

7E2 DISPERSED RECREATION AREAS-SUITABLE

Timber Management

7E1-006 These lands are classified as unsuitable for timber production. Vegetation management may be accomplished with commercial timber sales as an appropriate method of reducing costs associated with these activities.

Prescribed Fire and Wildland Fire Use

7E1-007 Vegetation management may be accomplished with management-ignited prescribed fire, wildland fire use, and mechanical treatments as an appropriate method of reducing costs associated with these activities.

Recreation

7E1-008 New facilities such as trails, trailheads, toilets, and parking areas are allowed, commensurate with the public use of the area.

7E1-009 Designated OHV routes are allowed.

Scenery

7E1-010 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	M	M	M	M	M	M

7E1-011 Management activities are designed to meet or exceed a high Scenic Integrity Objective in semi-primitive non-motorized areas within this prescription area.

Roads

7E1-012 Existing open public roads are maintained at or above current levels to provide for public access and safety.

7E1-013 All roads, facilities, and signing are designed to blend in with surroundings.

7E1-014 Road decommissioning is informed by a watershed-scale or site-specific roads analysis.

7E2 DISPERSED RECREATION AREAS-SUITABLE

This management prescription is allocated to approximately 51,800 acres (7%) across the Jefferson National Forest.

EMPHASIS:

These areas receive moderate to high recreation use and are managed to provide a variety of dispersed recreation opportunities, improve the settings for outdoor recreation, and enhance visitor experiences, in a manner that protects and restores the health, diversity, and productivity of the land. These areas provide a sustained yield of timber products; however timber harvest methods used are compatible with the recreational and aesthetic values of these lands.

DESIRED CONDITION:**7E2 DISPERSED
RECREATION
AREAS-SUITABLE**

These areas are characterized by easy access and are capable of sustaining a relatively high number of recreationists in a manner that protects the surrounding water, soil, vegetation, and wildlife. Visitors enjoy the natural appearing landscape character of these settings and are able to choose from a wide variety of well-maintained nature-based recreation opportunities. High quality forest roads and well-marked trails through these areas provide easy access for seniors, urban visitors, and recreationists with special access needs. Management is designed to meet the growing demands for pleasure driving, day hiking, mountain biking, horseback riding, dispersed camping, backpacking, hunting, fishing, nature study, and nature photography and to showcase high quality scenery from travelways and concentrated use areas maintained through low intensity, planned vegetation management activities.

Some areas may also provide licensed off road vehicle driving, rock climbing, river running, hang gliding, or a variety of other nature-based outdoor recreation activities. Trails through this area are well-marked and may include features for visitors with special access needs, loop systems, and/or interpretive programs. Facilities within these areas may include portable or permanent toilets, trash receptacles, fire grills, signs, or vehicle barriers; however, facilities are generally rare and are only provided for health and sanitation or to protect the area from resource damage.

The sights and sounds of other visitors and motorized vehicles are normally present. The opportunity to encounter other visitors is high along roadways, at parking areas, pullouts, and overlooks, but may be moderate to low on trails away from congregated use areas. Visitors are rarely challenged to rely on their own physical abilities and outdoor skills. Once away from open roads and trailheads, opportunities for solitude are available. In these more remote areas, visitors may take on some risk and be challenged to rely on their own personal physical abilities and primitive recreational skills such as bouldering, climbing, stream fording, and orienteering.

Roads are generally open to motorized activities. Non-motorized and motorized trails are maintained, improved, or expanded to meet local demands provided watershed and ecosystem health are not negatively affected. Limitations of use are implemented if any dispersed activity results in, or is expected to result in, negative affects to watershed or ecosystem health.

A mix of forest successional stages characterizes these areas. Infrequent pastoral and historic/cultural enclaves may also exist. From primary travelways and concentrated use areas, the valued character of these landscapes appears intact with no noticeable deviations. Even and uneven-aged forest communities are managed throughout the area, along with the continued development of medium and small patches of late successional to old growth forest communities. In order to provide a diversity of wildlife habitats for hunting and wildlife viewing, it is an objective to have at least four percent of forested lands in early-successional forest conditions created both naturally and purposefully when compatible with the recreation and scenic objectives of these areas. Structural diversity within mixed mesophytic and dry-to-mesic oak forest communities is enhanced through commercial and non-commercial vegetation management activities.

Wildlife species associated with mid- to late-successional deciduous forest habitats and mixed landscapes that are expected to inhabit these areas include: hooded warbler, southern pigmy shrew; whip-poor-will; least weasel, downy woodpecker; eastern gray squirrel; and orchard oriole. This management prescription also provides suitable habitat for ruffed grouse, eastern wild turkey and black bear. These areas provide excellent opportunities for wildlife viewing and hunting.

These areas are suitable for timber production. Commercial timber harvest is used to

**7E2 DISPERSED
RECREATION
AREAS-SUITABLE**

maintain the long-term goals of a diverse and vigorous forest with sensitivity to dispersed recreation and scenic values. Prescribed fire, wildland fire use, integrated pest management and commercial timber harvest are appropriate to manage vegetation. Wildland fires are used to restore and maintain historic fire regimes. Wildlife viewing opportunities are maintained and expanded through livestock grazing, cultivation, mowing, and burning of openings and pastoral areas.

Timber harvesting operations focus on what is retained in the forest, not on wood fiber production. Timber harvest is carefully timed and designed to be subtle. Group selections, individual tree selections, thinnings, and shelterwood harvests are predominately used. Clearcutting may occasionally be used to open up vistas, create spatial diversity along travelways, decrease straight line effect of cleared utility corridors, create watchable wildlife openings, for insect and disease suppression, or for salvage/scenic rehabilitation.

OBJECTIVES

- 7E2-OBJ1 Maintain a minimum of 4 percent of the prescription area in early successional forest habitat conditions (stand age less than 10 years, openings 2 acres in size and greater).

STANDARDS

Terrestrial and Aquatic Species

- 7E2-001 Wildlife and fisheries habitat improvements are allowed to enhance wildlife viewing, hunting, and fishing opportunities in accordance with scenic integrity objectives. Watchable wildlife species habitat improvements are encouraged.
- 7E2-002 Existing old fields, pastoral areas, and wildlife openings may be present and maintained. Expansion of existing openings and/or creation of new openings may occur. Non-invasive non-natives are sometimes used when establishing food plants for wildlife, but native species are preferred. Some openings provide permanent shrub/sapling habitats as a result of longer maintenance cycles.
- 7E2-003 Limit creation of early-successional forest habitat to 10 percent of forested acres.

Rare Communities and Old Growth

- 7E2-004 Old growth patches of all sizes and community types are maintained and restored.
- 7E2-005 Interpretation of rare communities is encouraged when carefully controlled to promote understanding and stewardship.

Vegetation and Forest Health

- 7E2-006 Allow vegetation management activities to:
- ▶ Provide 4-10 percent early successional habitat;
 - ▶ Create aesthetically desired stand structure and species composition including a pleasing mosaic of tree species of various densities and stem sizes, park like effects, and enhancement of fall color species;
 - ▶ Maintain developed recreation facilities, including roads and trails;
 - ▶ Improve threatened, endangered, sensitive, and locally rare species habitat;
 - ▶ Maintain rare communities and species dependent on disturbance;
 - ▶ Reduce insect and disease hazard;

- ▶ Control non-native invasive vegetation;
- ▶ Maintain, enhance, or restore the diversity and complexity of native vegetation;
- ▶ Reduce fuel buildups;
- ▶ Restore, enhance, or mimic historic fire regimes; or
- ▶ Provide for public health and safety.

Timber Management

- 7E2-007 These areas are suitable for timber production where hunting recreation and watchable wildlife are emphasized.
- 7E2-008 Even and uneven aged management systems are allowed, with an emphasis on group selection, thinning and shelterwood treatments. Commercial thinning is commonly used to develop park-like stands and larger trees for aesthetic reasons.
- 7E2-009 Reserve trees in even aged harvest areas display good form.
- 7E2-010 Manage regeneration harvest areas with the following rotation ages:

Upland hardwoods	120-140
Cove hardwoods	100-120
White pine	80-100
Yellow pine	80-100
Scarlet oak/Black oak	80-100

Prescribed Fire and Wildland Fire Use

- 7E2-011 Vegetation management may be accomplished with management-ignited prescribed fire, wildland fire use, and mechanical treatments as an appropriate method of reducing costs associated with these activities.

Recreation

- 7E2-012 New facilities such as trails, trailheads, toilets, and parking areas are allowed, commensurate with the public use of the area.

Scenery

- 7E2-013 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	M	M	M	M	M	M

Roads

- 7E2-014 Existing open public roads are maintained at or above current levels to provide for public access and safety.
- 7E2-015 All roads, facilities, and signing are designed to blend in with surroundings.
- 7E2-016 Road decommissioning is informed by a watershed-scale or site-specific roads analysis.

**7F BLUE RIDGE
PARKWAY VISUAL
CORRIDOR****7F BLUE RIDGE PARKWAY VISUAL CORRIDOR**

This management prescription is allocated to approximately 3,900 acres (<1%) across the Jefferson National Forest. The Blue Ridge Parkway was established June 30, 1936 as a recreation-oriented motor road connecting Shenandoah National Park in Virginia with the Great Smoky Mountains National Park in North Carolina. The Parkway itself is administered by the USDI Park Service as an elongated park for public use and enjoyment through safe, uninterrupted, leisure motor travel, which provides for the conservation and interpretation of the natural and cultural resources of the Southern Appalachian Mountains. The Blue Ridge Parkway is known for spectacular mountain and valley vistas, quiet pastoral scenes, sparkling waterfalls, colorful wildflower and foliage displays, and its interpretation of mountain history and culture.

EMPHASIS:

The emphasis of this management prescription is to manage National Forest System lands that can be seen from the Blue Ridge Parkway in a manner which positively contributes to the Parkway visitor's experience along this motorized national treasure. Views from Parkway overlooks appear natural and retain high to very high scenic integrity.

DESIRED CONDITION:

The Blue Ridge Parkway visual corridor provides exceptional opportunities for motorized recreation, including scenic driving. The views along the Parkway are natural appearing and include a variety of landscape characters, ranging from a continuous overstory canopy of large hardwoods and pines, to pastoral, cultural, rural, and suburban. Urban landscapes like the city of Roanoke may be seen in the background from some scenic overlooks. In the foreground, understory vegetation and ground cover provide colorful accents and interesting textures for each season. Road corridor improvements and interpretive facilities are evident changes to the natural environment, but these man-made alterations fit well with the character of the surrounding landscape. Forest management activities are not evident to the average visitor.

The Parkway itself provides the primary access through the area, with several Forest development roads terminating at, or crossing, the Parkway. The potential for encounters with other Forest visitors is high, especially at Parkway facilities, which include visitor centers, pullouts, overlooks, interpretive kiosks, trails, restrooms, and picnic sites. Scenic, historic and/or natural resources are interpreted for the benefit of visitors. These recreation and interpretive facilities are designed and constructed to complement the natural or cultural environment surrounding the Parkway. There is little opportunity for remoteness. Visitors experience low risk and little need to rely on personal physical abilities or primitive outdoor recreation skills within the Parkway corridor.

Vegetation is influenced both by natural processes and humans. Low intensity commercial timber harvest is appropriate to maintain the long-term goals of a diverse and vigorous forest with sensitivity to dispersed recreation and scenic values. Relatively longer rotation ages and a lower percentage of early successional forest in these areas reflect a "low intensity" approach to vegetation management and the higher priority of protecting the values of the Blue Ridge Parkway. Structural diversity within mixed mesophytic and dry-to-mesic oak forest communities is enhanced through commercial and non-commercial vegetation management activities. Up to four percent of forested land may be in early-successional forest conditions created both naturally and purposefully. Timber harvesting operations focus on what is retained in the stand, not on wood fiber production. Timber harvest practices are modified to recognize the aesthetic and recreational values of these lands. Group selections, individual tree selections, thinnings, and light shelterwood harvests are predominately used. Clearcutting and shelterwood

harvests leaving less than 35 square feet of basal area are only used within areas seldom seen from the Parkway and its overlooks.

7F BLUE RIDGE
 PARKWAY VISUAL
 CORRIDOR

Prescribed fire, wildlife habitat improvements, and integrated pest management are also appropriate management tools to manage vegetation. Wildland fires are managed in cooperation with the Park Service using an appropriate management response to protect Parkway resources and visitor safety.

These areas are characterized by a predominance of mid- and late-successional forests with a high to intermediate tolerance to shade. Forest structure varies according to ecological factors, but largely consists of a mature overstory of hardwoods, occasionally mixed with pines, a fairly open midstory, and a well-developed herbaceous and shrubby understory. Understory vegetation includes a variety of native deciduous and evergreen flowering trees, shrubs and wildflowers. Even- and uneven-aged forest communities are managed throughout the area, along with continued development of medium and small patches of late successional to old growth forest communities. Up to four percent of forested land may be in early-successional forest conditions created both naturally and purposefully when compatible with the scenic objectives of the parkway corridor; however, no early successional habitat objectives are associated with this prescription. Wildlife viewing opportunities are maintained and expanded through cultivation, mowing, and burning of openings and pastoral areas.

STANDARDS

General

- 7F-001 All management activities within this corridor must be compatible with maintaining, rehabilitating, or enhancing views from the Blue Ridge Parkway.
- 7F-002 Short-term scenic integrity objectives of rehabilitation and enhancement may be used until scenic integrity objectives are achieved.

Terrestrial and Aquatic Species

- 7F-003 Wildlife and fisheries habitat improvements are allowed to enhance wildlife viewing, hunting, and fishing opportunities in accordance with scenic integrity objectives. Watchable wildlife species habitat improvements are encouraged.
- 7F-004 Existing old fields, pastoral areas, and wildlife openings may be present and maintained. Expansion of existing openings and/or creation of new openings may occur. Non-invasive non-natives are sometimes used when establishing food plants for wildlife, but native species are preferred. Some openings provide permanent shrub/sapling habitats as a result of longer maintenance cycles.
- 7F-005 Up to 4% of this prescription area may be in early successional habitat conditions.

Rare Communities and Old Growth

- 7F-006 Old growth patches of all sizes and community types are maintained and restored.
- 7F-007 Interpretation of rare communities is encouraged when carefully controlled to promote understanding and stewardship.

Vegetation and Forest Health

- 7F-008 Forest structure is managed to favor flowering trees and shrubs.
- 7F-009 Control insect and disease outbreaks, when necessary, to protect the scenic

**7F BLUE RIDGE
PARKWAY VISUAL
CORRIDOR**

values, to reduce hazards to visitors, or for safety or legal reasons. Eradicate recently established non-native pests when possible. Favor the most effective control method.

- 7F-010 Allow vegetation management activities to:
- ▶ Maintain developed recreation facilities, including roads and trails;
 - ▶ Enhance or rehabilitate scenery, including:
 - Create aesthetically desired stand structure and species composition including a pleasing mosaic of tree species of various densities and stem sizes, park-like effects, and enhancement of fall color species;
 - Feature flowering trees, character trees, and shrub species;
 - ▶ Enhance both game and non-game wildlife habitat;
 - ▶ Improve threatened, endangered, sensitive, and locally rare species habitat;
 - ▶ Maintain rare communities and species dependent on disturbance;
 - ▶ Reduce fuel buildups;
 - ▶ Reduce insect and disease hazard;
 - ▶ Control non-native invasive vegetation; or
 - ▶ Provide for public health and safety.
- 7F-011 Salvage is allowed for scenic rehabilitation, fuel reduction, and to capture the economic value of dead, dying and diseased trees.

Timber Management

- 7F-012 Areas seldom seen from the Blue Ridge Parkway and its associated overlooks are suitable for timber production.
- 7F-013 The remainder of this corridor is unsuitable for timber production. Vegetation management may be accomplished with commercial timber sales as an appropriate method of reducing costs associated with these activities.
- 7F-014 Use even and uneven-aged silvicultural systems. Uneven-aged forest management (e.g. group selection, individual tree selection) practices are designed to result in forest structure and composition consistent with late-successional deciduous forest habitats over the long-term.
- 7F-015 Regeneration units range from 2 to 25 acres in size, clustered on the landscape.
- 7F-016 Regeneration harvest areas are primarily coppice with reserves with 15- 25 square feet of basal area per acre left to ensure adequate sunlight for oak regeneration and two-aged silvicultural systems which leave 20-40 square feet of basal area per acre. In order to provide vertical diversity and future mast production, leave trees with a mean diameter of the codominant trees in the stand.
- 7F-017 Clearcut harvest systems occur when necessary to achieve specific wildlife habitat objectives. Thinning and group selection silvicultural systems are also employed to provide the structural diversity required by some species within this habitat association.

7F-018 Manage regeneration harvest areas with the following rotation ages:

Upland hardwoods	120-180
Cove hardwoods	120-180
White pine	80-100
Yellow pine	80-100
Scarlet oak/Black oak	80-100

Wildland Fire Suppression

7F-019 Wildland fires are managed in cooperation with the Park Service using an appropriate management response to protect Parkway resources and visitor safety.

Prescribed Fire and Wildland Fire Use

7F-020 Prescribed fire and wildland fire use are coordinated with the Park Service to accomplish both Park Service and Forest Service management objectives in this corridor and adjacent management prescriptions.

Recreation

7F-021 Interpretive services including trails, signs, viewing areas, self-guided programs, and buildings are provided to enhance the understanding of, and appreciation for the natural environment, cultural resources, and the Parkway’s special features.

Scenery

7F-022 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	H	M	M	M	M	M

Range

7F-023 Livestock grazing is not permitted.

Minerals

7F-024 The Blue Ridge Parkway corridor is available for federal oil and gas leasing with controlled surface use to protect the views and other values of the corridor. Other Federal minerals may be available on a case-by-case basis after full consideration of effects on scenic resources and other values.

7F-025 Permit mineral materials for commercial, personal, free, and administrative use purposes with conditions to protect the scenic resources and other values.

7F-026 Permit new borrow pits, provided they meet the scenic integrity objective. Rehabilitate or reclaim existing borrow pits that are currently not meeting the scenic integrity objective.

Roads

7F-027 Permit new access roads, provided they quickly enter and leave the seen area and do not parallel existing travelways.

7F-028 All roads, facilities, and signing are designed to blend in with surroundings.

7F BLUE RIDGE PARKWAY VISUAL CORRIDOR 7F-029 Density of open roads and/or motorized vehicle trails remains near the current level throughout the planning period, with only small increases or decreases.

Lands and Special Uses

7G PASTORAL LANDSCAPES 7F-030 These areas are unsuitable for designation of new utility corridors, utility rights-of-way, or communication sites. Continue existing uses. Require necessary mitigation techniques, including screening, feathering, and other vegetation management techniques to mitigate the visual and other impacts of upgraded, utility corridors, or communication sites.

7F-031 Authorize other special uses if consistent and compatible with the goals and objectives of this area.

7G PASTORAL LANDSCAPES

This management prescription is allocated to approximately 3,700 acres (<1%) across the Jefferson National Forest. These areas include those landscapes identified on the Jefferson National Forest as part of the Landscapes for the Future program initiated in the mid 1970's. Many of these previously privately owned pastured farmsteads that were acquired on the Mount Rogers National Recreation Area were earmarked to maintain their pastoral landscape character in support of the Rural Americana theme of the NRA.

EMPHASIS:

The emphasis is on providing, through maintenance or restoration, high quality, generally open landscapes with a pastoral landscape character. These landscapes are frequently found in visually important travel corridors.

DESIRED CONDITION:

Visitors to these landscapes view and experience high quality pastoral scenery in a setting conducive to a variety of recreational experiences. These areas reflect a Rural Americana landscape character theme that represent remnants of a pleasant, peaceful, simple rural life. The backdrop for many of these areas is natural appearing forested landscapes or other similar privately owned pastoral landscapes. Human cultural modification is evident in the form of pastures, hedgerows, fencelines, farm paths, paved roads and dirt travelways, an occasional outbuilding, springhouse or barn all complementing the desirable pastoral landscape attributes of the rural setting. Grazing cattle, horses, or sheep are commonly observed. The predominantly grassy openings vary in size and shape as a result of traditional cultural land use patterns. Some exhibit straight-lined edges and others follow natural landforms and watercourses.

Recreation uses include pleasure driving, photography, watching wildlife, and participating in dispersed recreation such as picnicking, strolling, horseback riding, hunting, and fishing. These areas are typically accessible by motor vehicle and some may have small parking areas or pullouts to allow visitors to stop and walk through the area. These areas provide important habitat for early successional species and watchable wildlife habitats. Examples include songbirds, woodpeckers, hummingbirds, butterflies, deer, rabbits, foxes, turkeys, waterfowl, and squirrels.

The sights and sounds of other visitors and motorized vehicles are common, but are moderated in areas away from congregated use areas. Visitors take on low risk and are not challenged to rely on their own physical abilities and outdoor skills. Facilities, though minimal, are designed to fit the character of the specific sites where they are located. Facilities might include pullouts, small parking areas, trailheads, bulletin boards, interpretive signage, fence stiles, rail, and other fences. Trails, if present, are generally of a low development scale and do not have hardened surfaces.

The foreground of the Appalachian National Scenic Trail encompasses a portion of this management prescription. Within the foreground of the Appalachian Trail, management practices are designed to achieve the desired condition of this management prescription as well as protect the Appalachian Trail experience, strengthen the role of volunteers and volunteer organizations, provide opportunities for high quality outdoor recreation experiences, and provide for the conservation and enjoyment of the nationally significant scenic, historic, natural and cultural qualities of the land through which the Appalachian Trail passes.

Vegetation consists predominantly of low grasses and wildflowers with some native deciduous and evergreen shrubs interspersed with an occasional tree, hedgerow, or small woodlot. For the most part the areas are on gently rolling terrain, some with exposed surface rock, rock outcrops, and meandering streams.

Wildlife species associated with grassland habitats expected to inhabit these areas include: whitetail deer, grasshopper sparrow, vesper sparrow, black rat snake, loggerhead shrike, and orchard oriole. These areas provide excellent opportunities for wildlife viewing and hunting. High elevation grasslands and balds also provide optimal habitat for the golden-winged warbler and chestnut-sided warbler.

Sound range management practices help to maintain important old-field and grassland habitats, high mountain vistas on the Mount Rogers NRA and aesthetically pleasing pastoral settings. National forest grazing allotments demonstrate how innovative range management practices can maintain and restore vegetated riparian areas and stable streambanks within the range of natural variability. The national forest grazing program benefits local communities through meat production and assistance to small farmers.

STANDARDS

Vegetation and Forest Health

- 7G-001 These non-forest areas are unsuitable for timber management, although occasional tree removal or herbicide use may be necessary to manage forest encroachment, provide scenic views, improve visitor safety, or encourage the presence of certain watchable wildlife species.
- 7G-002 Eradicate non-native invasive plants.

Prescribed Fire and Wildland Fire Use

- 7G-003 Prescribed fire and wildland fire use are allowed to maintain pastoral landscapes.

Recreation

- 7G-004 New facilities such as trails, trailheads, toilets, and parking areas are allowed.
- 7G-005 These corridors are unsuitable for designation of new ATV routes or use areas. Allow designated routes for licensed OHVs only if cross-country use can be controlled.

Scenery

- 7G-006 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	H	M	M	M	M	M

**7G PASTORAL
LANDSCAPES**

Appalachian National Scenic Trail

7G-007 Within the foreground of the Appalachian Trail, all activities will be planned and carried out in cooperation with the appropriate Appalachian Trail management partner(s). See Management Prescription 4A for additional management direction applicable to this corridor.

**8A1 MIX OF
SUCCESSIONAL
HABITATS IN
FORESTED
LANDSCAPES**

Range

7G-008 Grazing is permitted in order to maintain a pastoral setting on areas historically grazed or on open cultivated areas.

7G-009 Grazing is not permitted without an Allotment Management Plan (AMP). AMPs are reviewed annually and revised when necessary.

7G-010 Stocking of range allotments will not exceed the carrying capacity.

Roads

7G-011 All roads, facilities, and signing are designed to blend in with surroundings.

Lands and Special Uses

7G-012 New land acquisitions containing old farms and pastoral areas are often assigned this management prescription, although there is no objective to acquire these types of landscapes.

8A1 MIX OF SUCCESSIONAL HABITATS IN FORESTED LANDSCAPES

This management prescription is allocated to approximately 112,600 acres (16%) across the Jefferson National Forest. These areas lie within extensive (>75,000 acres) forested landscapes (public and private lands with 70 percent or greater forest cover) and are managed for a broad suite of animals and plants. Species associated with mid- to late-

successional forest habitats, area-sensitive species, and those species which use a mix of habitats to fulfill different needs are all provided for in this prescription. Maintenance, enhancement and restoration of native forest communities, particularly southern yellow pine and the wide variety of oak forest communities, are closely related to the primary goal of this prescription area in order to provide important habitat components like hard mast and thermal cover to maintain energy reserves of species and support winter survival.

EMPHASIS:

These areas provide a mix of habitats for plants and animals associated with mid- to late-successional forest habitats. Management activities are designed to: 1) retain forest cover across the prescription area; 2) increase spatial heterogeneity by increasing both early and late successional habitat conditions; 3) increase vertical vegetative diversity (canopy, sub-canopy, shrub, herbaceous layers all present and fairly well developed); 4) maintain or enhance hard and soft mast production; and 5) limit motorized access across the prescription area.

“The greatest burden on bird populations [in the Appalachian Mountains] may be reduced structural diversity and spatial heterogeneity due to insufficient acreage of both older age classes and early successional conditions.”

Partners in Flight,
Conservation of the Land
Birds of the United
States. 2000.

DESIRED CONDITION:

The landscape character of this area retains a natural, forested appearance. A mid- to late-successional forest greater than 40 years of age dominates the landscape. The area is interspersed with both forest communities greater than 100 years of age and herbaceous openings, providing diversity for both wildlife habitat and scenic attractiveness.

Wildlife species associated with mid- to late-successional deciduous forest habitats that are expected to inhabit this area include: hooded warbler, southern pigmy shrew; whip-poor-will; least weasel, downy woodpecker; eastern gray squirrel; and orchard oriole. Because the landscapes in which this prescription lie, including private lands, are over 70% forest cover, one could also expect to find area-sensitive mid- to late-successional forest species including: ovenbird, cerulean warbler, black-billed cuckoo, and Swainson's warbler. This management prescription also provides suitable habitat for eastern wild turkey and black bear.

The mix of forest communities desired varies by the landtype associations in which this prescription is allocated; however, the canopy generally consists of a mixed hardwood forest composed primarily of oaks and hickories in the uplands. The overstory is relatively closed, multi-layered, and moderately to densely stocked. The midstory is also multi-layered composed of a diversity of shrubs, vines, grape arbors, and saplings. Southern yellow pines increase as sites become drier on south-facing slopes and towards the ridge tops. Poplar, birch, and hemlock increase as moisture availability increases downslope to the coves. These cove forests, composed of mixed mesophytic and dry-to mesic oak communities are structurally diverse with canopy gaps and small openings. They frequently contain tall trees with large diameters and provide a home to cerulean warblers in some parts of the forest. Hooded warblers thrive where a dense shrub understory is maintained or enhanced.

A mix of forest successional stages characterizes these areas, but the focus is on mid- to late-successional forests with an objective of minimum of sixty percent of the area greater than 40 years of age and at least twenty percent in late-successional to old growth forest conditions. In addition, 4 to 10 percent of forested land is in early-successional forest conditions. Early-successional habitat in the 2100 to 2500 foot elevation range for species like the golden-winged warbler, is abundant in the form of open woodlands, regenerating forests, old fields, balds, and utility rights-of-way. Many patches of these habitats are over 20 acres in size and, where compatible with other multiple-use objectives, are clustered on the landscape to provide optimum habitat for dependent species.

Portions of this prescription area are managed by natural processes and prescribed fire and contribute to the older aged forest component across the prescription area. These lands include riparian areas, areas of low productivity like shale barrens, and lands where commercial timber harvest is uneconomical. The resulting landscape structure of this land allocation provides a forest matrix appropriate for linking large and medium-sized late successional to old growth patches. Trees greater than 120 years of age occur commonly as individuals, groups, or large areas. Cavity trees, cull trees, standing dead trees, and down logs are common throughout the area as a result of natural mortality.

Prescribed fire plays an important role in the maintenance of many of the forested communities found throughout this management prescription. Prescribed fire is frequently used to encourage oak sprouting and reduce competition from more shade tolerant species, to restore and maintain threatened and endangered species habitats, and to ensure the continued presence of fire-dependent southern yellow pine ecosystems. Prescribed fire and commercial timber harvest are employed to maintain the hard mast producing capabilities of the forest communities containing oaks and hickories.

Timber management to maintain and enhance hard mast production, especially oaks, is designed to establish and maintain reproduction of a diversity of tree species of mast bearing age in dominant and co-dominant crown classes. Trees with open-grown crowns receiving plenty of sunlight produce the most acorns and the creation of openings 2 acres in size and greater to get full sunlight on the forest floor helps maintain oak regeneration as well as stimulate soft mast and browse production. Maintenance of a diversity of forest age classes is also important in these areas to provide soft mast and herbaceous

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vegetation.

The recreation experience in this area is not considered remote, although open road densities are fairly low. Access is provided through portions of the area on Forest Service and State roads with a gravel or native surface. Roads may occasionally be paved. Unlicensed off-road vehicles use may occasionally occur on designated trails in the area, but is generally discouraged to provide wildlife habitat security. Challenging opportunities may exist for high-clearance and 4-wheel drive vehicles on open roads.

Forest visitors on foot, horse, or bikes may experience some solitude in portions of this prescription area where roads are managed as closed, but feelings of challenge and risk are not expected. Comfort, sanitation, and camping facilities are not provided, although primitive camping can be enjoyed throughout the area. During most of the year, occasional encounters with other forest visitors can be expected, however these encounters are more frequent during spring and fall hunting seasons. This area provides excellent opportunities for wildlife viewing and hunting.

OBJECTIVES

- 8A1-OBJ1 Maintain a minimum of sixty percent of the area greater than 40 years of age.
- 8A1-OBJ2 Maintain a minimum of twenty percent of the area in late-successional to old growth forest conditions greater than 100 years of age.
- 8A1-OBJ3 Maintain a minimum of 4 percent of the prescription area in early successional forest habitat conditions (stand age less than 10 years, openings 2 acres in size and greater).
- 8A1-OBJ4 Maintain an open road density at or below 1.25 miles per square mile (applies to National Forest System roads only).

STANDARDS

Terrestrial and Aquatic Species

- 8A1-001 Limit creation of early-successional forest habitat to 10 percent of forested acres (based on the contiguous prescription area).
- 8A1-002 Existing old fields, pastoral areas, wildlife openings, and other wildlife habitat improvements may be present and maintained. Expansion of existing openings and/or creation of new openings may occur. Non-invasive non-natives are sometimes used when establishing food plants for wildlife, but native species are preferred. Some openings provide permanent shrub/sapling habitats as a result of longer maintenance cycles.
- 8A1-003 Favor the retention of large (>20" d.b.h.) standing snags and den trees when implementing silvicultural treatments.

Rare Communities and Old Growth

- 8A1-004 Patches of old growth allocated to management prescriptions 6A, 6B, or 6C within an 8A1 management prescription block, contribute to the objective of a minimum of twenty percent of the area in late-successional to old growth forest conditions.

Vegetation and Forest Health

- 8A1-005 Maintain and restore southern yellow pine forest communities through artificial or natural regeneration. Regenerate pine-hardwood forest types artificially or

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- naturally to mixed pine-hardwood stands of native species to retain the pine component.
- 8A1-006 Manage for a diversity of oak species to minimize yearly fluctuations in acorn supplies.
- 8A1-007 The forest health strategy is to minimize the occurrence of pest problems by managing host-type conditions. Suppression of pests, both non-native and native, is accomplished with all available integrated pest management tools.

Timber Management

- 8A1-008 These areas are suitable for timber production.
- 8A1-009 Use even and uneven-aged silvicultural systems. Uneven-aged forest management (e.g. group selection, individual tree selection) practices are designed to result in forest structure and composition consistent with late-successional deciduous forest habitats over the long-term.
- 8A1-010 Regeneration harvest areas range in size from 2 to 40 acres.
- 8A1-011 Regeneration harvest areas are primarily coppice with reserves³ with 15- 25 square feet of basal area per acre left to ensure adequate sunlight for oak regeneration and two-aged silvicultural systems which leave 20-40 square feet of basal area per acre. In order to provide vertical diversity and future mast production, leave trees with a mean diameter of the codominant trees in the stand.
- 8A1-012 Clearcut harvest systems may occur when necessary to achieve specific wildlife habitat objectives. Thinning and group selection silvicultural systems are also employed to provide the structural diversity required by some species within this habitat association.
- 8A1-013 Regeneration harvest areas may occupy up to 16 percent of a project analysis area in order to provide 4-10 percent of an individual contiguous management prescription area in early successional forest habitat conditions and to cluster these conditions on the landscape.
- 8A1-014 Manage regeneration harvest areas with the following rotation ages:

Upland hardwoods	120-180
Cove hardwoods	100-120
White pine	80-100
Yellow pine	80-100
Scarlet oak/Black oak	80-100

³ An even-aged silvicultural system designed to leave some midstory and overstory trees for visual and wildlife benefits while still allowing adequate sunlight to reach the forest floor for regeneration of shade intolerant species. The future stand of trees develops under the partial forest canopy left after harvest. In a coppice with reserves, the trees left after the initial harvest may be left standing, felled, or removed after stand regeneration reaches a suitable height.

Non-timber Forest Products

- 8A1-015 Commercial and personal use firewood collection is allowed.

Prescribed Fire and Wildland Fire Use

- 8A1-016 Prescribed fire and wildland fire use are allowed to: create openings that stimulate soft mast production and browse; encourage oak sprouting; maintain, restore, and enhance native forest communities; ensure the continued presence of fire-dependent ecosystems; improve threatened, endangered, sensitive, and locally rare species habitat; and reduce fuel buildups. It is also used in conjunction with site preparation to accomplish silvicultural treatments.

**8A1 MIX OF
SUCCESSIONAL
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Recreation

8A1-017 Wildlife openings, including linear strips, are signed to protect established vegetation from recreational use (e.g. horseback riding, mountain biking, OHV use, and camping) when a reoccurring problem exists.

8A1-018 Designated OHV routes and mountain bike use may be restricted if negatively impacting nesting or brood-rearing habitat.

**8B EARLY
SUCCESSIONAL
HABITAT
EMPHASIS**

Scenery

8A1-019 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	M	L	L	L	L	L

8A1-020 Clustering of early successional habitats occurs primarily within scenic classes 3 through 7.

8B EARLY SUCCESSIONAL HABITAT EMPHASIS

This management prescription is allocated to approximately 19,600 acres (3%) across the Jefferson National Forest.

EMPHASIS:

This area emphasizes providing optimal to suitable habitat for a variety of upland game species and plant and animal populations associated with early successional forest habitats. Management activities are designed to: 1) sustain a distribution of early successional habitat conditions interspersed throughout a forested landscape, 2) maintain a habitat structure which provides both horizontal and vertical diversity, 3) optimize hard and soft mast production, and 4) control access to protect habitat when necessary.

DESIRED CONDITION:

The landscape character of this area retains a natural, forested appearance. A mosaic of early successional habitat patches of various sizes are interspersed throughout a predominately forested landscape. The area also contains both forest communities greater than 100 years of age and permanent herbaceous openings providing both wildlife habitat diversity and visual diversity.

Wildlife species associated with early successional forest habitats and mixed landscapes expected to inhabit these areas include: eastern towhee, white-eyed vireo, least weasel, whip-poor-will, and orchard oriole. This management prescription also provides suitable habitat for ruffed grouse, eastern wild turkey and black bear.

The mix of forest communities varies by the landtype associations in which this prescription is allocated, however, the canopy generally consists of a mixed hardwood forest composed primarily of oaks and hickories in the uplands. Poplars, birch, and hemlock increase as moisture availability increases down slope to the coves. Southern yellow pines increase as sites become drier on south-facing slopes and towards the ridge tops. The overstory is relatively closed, multi-layered, and moderately to densely stocked. The midstory is also multi-layered composed of a diversity of shrubs, vines, grape arbors, and saplings.

A mix of forest successional stages characterizes these areas, but the focus is on the mosaic of early successional habitat patches within a largely mid- to late-successional forest landscape. 10 - 16 % of the prescription area consists of a dispersed system of permanent openings and transitory openings created through both natural disturbance events and forest management activities. Early successional forest provides several important habitat components that change over time unless a patch is maintained every one to three years through mowing or herbicide applications. The grass-forb component, important for grazers and species that feed on insects, is created immediately following a disturbance event and quickly becomes a dense woody understory of shrubs and young trees which provides both hiding cover and soft mast for food. The forested edges created by the opening are prime hunting territory for both avian and fur-bearing predators. As the young forest matures into pole-sized trees, the dense overhead cover provides protection from flying and perching predators and shades out the dense understory increasing the visibility of approaching predators like fox and bobcats. After about 40 years, the forest begins producing hard mast like acorns and pine seeds, which are critical for the winter diet of many species in the southern Appalachians.

Early-successional habitat in the 2100 to 2500 foot elevation range for species like the golden-winged warbler, is abundant in the form of open woodlands, regenerating forests, old fields, balds, and utility rights-of-way. Many patches of these habitats are over 20 acres in size and, where compatible with other multiple-use objectives, are clustered on the landscape to provide optimum habitat for dependent species.

In addition, it is an objective to have a minimum of five percent of the area in late-successional to old growth forest conditions. Trees greater than 120 years of age may occur throughout the prescription area as individuals or small groups. Portions of this prescription area, are managed by natural processes and prescribed fire and contribute to the older aged forest component across the prescription area. These lands include riparian areas, areas of low productivity like shale barrens, and lands where commercial timber harvest is uneconomical. The resulting landscape structure of this land allocation provides a forest matrix considered marginal for linking large and medium-sized late successional to old growth patches. Cavity trees, cull trees, standing dead trees, and down logs occur throughout the area as a result of natural mortality.

Prescribed fire plays an important role in the maintenance of many of the forested communities found throughout this management prescription. Prescribed fire is frequently used to encourage oak sprouting and reduce competition from more shade tolerant species, to restore and maintain threatened and endangered species habitats, and to ensure the continued presence of fire-dependent ecosystems.

Timber management to maximize hard mast production, especially oaks, is designed to establish and maintain reproduction of a diversity of species of mast bearing age in dominant and co-dominant crown classes. Trees with open-grown crowns receiving plenty of sunlight produce the most acorns and the creation of canopy gaps large enough to get full sunlight on the forest floor helps maintain oak regeneration as well as stimulate soft mast and browse production. Maintenance of habitat diversity is critical in these areas to provide soft mast and herbaceous vegetation.

The recreation experience in this area is not considered remote. Access is provided through portions of the area on Forest Service and State roads with a gravel or native surface. Roads may occasionally be paved. Unlicensed off-road vehicles use may occasionally occur on designated trails in the area. Challenging opportunities may exist for high-clearance and 4-wheel drive vehicles on open roads.

Forest visitors on foot, horse, or bikes rarely experience feelings of solitude, challenge, or risk. Comfort, sanitation, and camping facilities are not provided, although primitive camping can be enjoyed throughout the area. During most of the year, encounters with

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other forest visitors can be expected, however these encounters are more frequent during spring and fall hunting seasons. This area provides outstanding opportunities for wildlife viewing and hunting.

OBJECTIVES

- 8B-OBJ1 Maintain a minimum of 10 percent of the prescription area in early successional forest habitat conditions (stand age less than 10 years, openings 2 acres in size and greater).
- 8B-OBJ2 Maintain a minimum of five percent of the area in late-successional to old growth forest conditions.
- 8B-OBJ3 Maintain an open road density at or below 1.5 miles per square mile (applies to National Forest System roads only).

STANDARDS

Terrestrial and Aquatic Species

- 8B-001 Limit creation of early-successional forest habitat to 16 percent of forested acres (based on the contiguous prescription area).
- 8B-002 Existing old fields, pastoral areas, wildlife openings, and other wildlife habitat improvements may be present and maintained. Expansion of existing openings and/or creation of new openings may occur. Non-invasive non-natives are sometimes used when establishing food plants for wildlife, but native species are preferred. Some openings provide permanent shrub/sapling habitats as a result of longer maintenance cycles.
- 8B-003 Favor the retention of large (>20" d.b.h.) standing snags and den trees when implementing silvicultural treatments.

Rare Communities and Old Growth

- 8B-004 Patches of old growth allocated to management prescriptions 6A, 6B, or 6C within an 8B management prescription block, contribute to the objective of a minimum of five percent of the area in late-successional to old growth forest conditions.

Vegetation and Forest Health

- 8B-005 Maintain and restore southern yellow pine forest communities through artificial or natural regeneration. Regenerate pine-hardwood forest types artificially or naturally to mixed pine-hardwood stands of native species to retain the pine component.
- 8B-006 Manage for a diversity of oak species to minimize yearly fluctuations in acorn supplies.
- 8B-007 The forest health strategy is to minimize the occurrence of pest problems by managing host-type conditions. Suppression of pests, both non-native and native, is accomplished with all available integrated pest management tools.

Timber Management

- 8B-008 These areas are suitable for timber production.
- 8B-009 Use even and uneven-aged silvicultural systems. Thinning and group selection may be employed to increase the structural diversity of the prescription area.
- 8B-010 Regeneration units range from 5 to 40 acres in size.

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SUCCESSIONAL
HABITAT
EMPHASIS**

8B-011 Regeneration harvest areas are primarily coppice with reserves with 15- 25 square feet of basal area per acre left to ensure adequate sunlight for oak regeneration and two-aged silvicultural systems which leave 20-40 square feet of basal area per acre. In order to provide vertical diversity and future mast production, leave trees with a mean diameter of the codominant trees in the stand.

8B-012 Clearcut harvest systems occur when necessary to achieve specific wildlife habitat objectives. Thinning and group selection silvicultural systems are also employed to provide the structural diversity required by some species within this habitat association.

8B-013 Regeneration harvest areas may occupy up to 20 percent of a project analysis area in order to provide 10-16 percent of the individual contiguous management prescription area in early successional forest habitat conditions and to cluster these conditions on the landscape.

8B-014 Manage regeneration harvest areas with the following rotation ages:

Upland hardwoods	100-120
Cove hardwoods	80-100
White pine	80-100
Yellow pine	80-100
Scarlet oak/Black oak	80-100

8B-015 Salvage of dead and dying trees is allowed.

Non-timber Forest Products

8B-016 Commercial and personal use firewood collection is allowed.

Prescribed Fire and Wildland Fire Use

8B-017 Prescribed fire and wildland fire use are allowed to: create openings that stimulate soft mast production and browse; encourage oak sprouting; maintain, restore, and enhance native forest communities; ensure the continued presence of fire-dependent ecosystems; improve threatened, endangered, sensitive, and locally rare species habitat; and reduce fuel buildups. It is also used in conjunction with site preparation to accomplish silvicultural treatments.

Recreation

8B-018 Wildlife openings, including linear strips, are signed to protect established vegetation from recreational use (e.g. horseback riding, mountain biking, OHV use, and camping) when a reoccurring problem exists.

8B-019 Designated OHV routes and mountain bike use may be restricted if negatively impacting nesting or brood-rearing habitat.

Scenery

8B-020 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	M	L	L	L	L	L

**8C BLACK BEAR
HABITAT
MANAGEMENT**

8.C. BLACK BEAR HABITAT MANAGEMENT

This management prescription is allocated to approximately 57,300 acres (8%) across the Jefferson National Forest. Commercial timber harvest is appropriate within this management prescription.

EMPHASIS:

This area emphasizes providing optimal habitat for black bears and other wide-ranging area sensitive species. Management activities are designed to: 1) provide a secluded and diverse habitat; 2) ensure adequate den sites, and 3) maintain hard and soft mast production.

DESIRED CONDITION:

The landscape character of this area retains a natural, forested appearance. A mid- to late-successional forest greater than 40 years of age dominates the landscape. National The area is interspersed with both forest communities greater than 100 years of age and herbaceous openings providing both wildlife habitat diversity and visual diversity.

One of the most important factors in providing optimum black bear habitat in the Southern Appalachians is road and trail management. Although roads are necessary to create and maintain habitat diversity and to effectively manage bear populations by distributing hunting pressure, less than .8 miles of open roads per 1,000 acres is desired to ensure secluded habitats. Higher densities may be accommodated if traffic volumes are low and if motorized use is restricted during spring to late summer to reduce disturbance of females with cubs. Roads management may also be used as a population regulation tool in cooperation with state wildlife management agencies. Controls on access may be tightened or loosened depending on the trend in local bear numbers, desired harvest levels, bear nuisance complaints in surrounding areas, etc.

Often, although not always, the core of these prescription areas provide semi-primitive motorized and/or non-motorized recreation opportunities. These semi-primitive opportunities are maintained within this prescription area. These core areas are currently unroaded and remain unroaded. They provide secluded habitats for black bears as well as a remote, backcountry setting for hunters and other recreationists. This prescription area is frequently connected to a backcountry recreation or wilderness area. In these situations, the adjacent prescription area is considered an important component of the black bear management unit and is used to calculate road density.

Along with black bears and bobcats, area-sensitive and other wildlife species associated with mid- to late-successional forest species expected to inhabit this area include: ovenbirds, northern saw-whet owls, cerulean warblers, wood thrushes, pileated woodpeckers, hooded warblers, scarlet tanagers, southern pigmy shrew, downy woodpecker, eastern gray squirrel, and eastern wood pee-wee. This management prescription also provides suitable habitat for eastern wild turkey.

The mix of forest communities desired varies by the landtype associations in which this prescription is allocated; however, the canopy generally consists of a mixed hardwood forest composed primarily of oaks and hickories in the uplands. Poplar, birch, and hemlock increase as moisture availability increases downslope to the coves. Southern yellow pines increase as sites become drier towards the ridge tops. The overstory is relatively closed, multi-layered, and moderately to densely stocked. Structural diversity within mixed mesophytic and dry-to-mesic oak forest communities is enhanced through commercial and non-commercial vegetation management activities. A moderate stocking of tall trees with large diameters is desirable when cerulean warbler is known to exist

within the prescription area. The midstory is also multi-layered, composed of a diversity of shrubs, vines, grape arbors, and saplings. A dense shrub understory is maintained or enhanced where hooded warblers are known to exist.

A mix of forest successional stages characterizes these areas, but the focus is on oaks and hickories in their prime mast-producing years, between 40 and 100 years of age. A minimum of sixty percent of forest communities in these prime mast-producing years is desirable. There is also an objective to have a minimum of twenty-five percent of the area in late-successional to old growth forest conditions. These conditions are frequently provided within the semi-primitive portions of this prescription area, as well as the adjoining backcountry or wilderness and embedded old growth land allocations. Trees greater than 120 years of age occur commonly as individuals, groups, or large areas.

In addition, 4-10 percent of forested land outside of the semi-primitive core areas is in early successional forest conditions in order to ensure a steady supply of hard mast in the most productive age classes and ensure that oaks and other nut-producing trees are dominant components of the future forest. Early successional areas also establish and maintain a diversity of soft mast producing species so that berries and fruits are available in all seasons. Soft mast can mitigate the impacts of years when hard mast is low.

Rockfalls, caves, road culverts, uprooted trees, and trees larger than 22 inches in diameter serve as potential dens. Known den trees are retained in harvest areas along with an unharvested buffer of at least 100 feet wide on all sides of the den. An extended rotation age on lands suitable for commercial timber harvest provides future den trees over the long term by allowing potential den trees to reach suitable size.

Portions of this prescription area are managed by natural processes and prescribed fire and contribute to the older aged forest component across the prescription area. These lands include semi-primitive core areas, riparian areas, areas of low productivity like shale barrens, and lands where commercial timber harvest is uneconomical. The resulting landscape structure of this land allocation provides a forest matrix appropriate for linking large and medium-sized late successional to old growth patches. The semi-primitive core areas provide large-sized late successional to old growth patches in the future. Cavity trees, cull trees, standing dead trees, and down logs are common throughout the area as a result of natural mortality.

Prescribed fire plays an important role in the maintenance of many of the forested communities found throughout this management prescription. Prescribed fire is frequently used to encourage oak sprouting and reduce competition from more shade tolerant species, to restore and maintain threatened and endangered species habitats, and to ensure the continued presence of fire-dependent ecosystems. Prescribed fire and timber management are employed to maintain the hard mast producing capabilities of the forest communities containing oaks and hickories.

Timber management to maximize hard mast production, especially oaks, is designed to establish and maintain reproduction of a diversity of species of mast-bearing age in dominant and co-dominant crown classes. Trees with open-grown crowns receiving plenty of sunlight produce the most acorns and the creation of canopy gaps large enough to get full sunlight on the forest floor helps maintain oak regeneration as well as stimulate soft mast and browse production. Regeneration areas have irregular shapes and are dispersed throughout the portions of this prescription area outside of the semi-primitive core area. Thinning is used to increase structural diversity, favor oak species, restore open oak woodland conditions, and extend soft mast production.

The recreation experience in portions of these areas may be considered remote. Open road densities throughout these areas are low (< .8 miles per 1000 acres). Access is provided through portions of these areas on Forest Service and State roads with a gravel

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or native surface. Roads may occasionally be paved. Unlicensed off-road vehicles use is prohibited in order to provide wildlife habitat security. Challenging opportunities may exist for high-clearance and 4-wheel drive vehicles on open roads.

Forest visitors on foot, horse, or bikes may experience solitude in portions of these prescription areas and feelings of challenge and risk are expected. Comfort, sanitation, and camping facilities are not provided, although primitive camping can be enjoyed throughout the area. During most of the year, occasional encounters with other forest visitors can be expected; however these encounters are more frequent during spring and fall hunting seasons. This area provides good opportunities for wildlife viewing and hunting.

OBJECTIVES

- 8C-OBJ1 Maintain a minimum of sixty percent of the area between 40-100 years of age.
- 8C-OBJ2 Maintain a minimum of twenty-five percent of the area in late-successional to old growth forest conditions. Calculations of late-successional to old growth forest conditions include embedded old growth and adjacent backcountry and wilderness areas.
- 8C-OBJ3 Maintain a minimum of 4 percent of the prescription area in early successional forest habitat conditions (stand age less than 10 years, openings 2 acres in size and greater).
- 8C-OBJ4 Maintain an open road density at or below .8 miles per square mile (applies to National Forest System roads only).

STANDARDS

Terrestrial and Aquatic Species

- 8C-001 Limit creation of early successional forest habitat to 10 percent of forested acres outside of semi-primitive core areas (based on the contiguous prescription area).
- 8C-002 Existing old fields, pastoral areas, wildlife openings, and other wildlife habitat improvements may be present and maintained. Expansion of existing openings and/or creation of new openings may occur within and outside semi-primitive core areas. Non-invasive non-natives are sometimes used when establishing food plants for wildlife, but native species are preferred. Some openings provide permanent shrub/sapling habitats as a result of longer maintenance cycles.
- 8C-003 Favor the retention of large (>20" d.b.h.) standing snags and den trees when implementing silvicultural treatments. Known den trees are retained in harvest areas along with an unharvested buffer of at least 100 feet wide on all sides of the den.

Rare Communities and Old Growth

- 8C-004 Patches of old growth allocated to management prescriptions 6A, 6B, 6C, or 12B within an 8.C management prescription block contribute to the objective of a minimum of twenty-five percent of the area in late-successional to old growth forest conditions.

Vegetation and Forest Health

- 8C-005 Maintain and restore southern yellow pine communities through artificial or natural regeneration. Regenerate pine-hardwood forest types artificially or

- naturally to mixed pine-hardwood stands of native species to retain the pine component.
- 8C-006 Manage for a diversity of oak species to minimize yearly fluctuations in acorn supplies.
- 8C-007 The forest health strategy is to minimize the occurrence of pest problems by managing host-type conditions. Suppression of pests, both non-native and native, is accomplished with all available integrated pest management tools.

Timber Management

- 8C-008 These areas are suitable for timber production.
- 8C-009 Use even and uneven-aged silvicultural systems. Uneven-aged forest management (e.g. group selection, individual tree selection) practices are designed to result in forest structure and composition consistent with late-successional deciduous forest habitats over the long-term.
- 8C-010 Regeneration harvest areas range in size from 2 to 40 acres.
- 8C-011 Primary regeneration harvest method is coppice with reserves with 15-25 square feet of basal area left to ensure adequate sunlight for oak regeneration and two-aged silvicultural systems, which leave 20-40 square feet of basal area per acre. In order to provide vertical diversity and future mast production, leave trees with a mean diameter of the codominant trees in the stand.
- 8C-012 Clearcut harvest systems may occur when necessary to achieve specific wildlife habitat objectives. Thinning and group selection silvicultural systems are also employed to provide the structural diversity required by some species within this habitat association.
- 8C-013 Regeneration harvest areas may occupy up to 10 percent of a project analysis area in order to provide up to 4 percent of the individual contiguous management prescription area in early successional forest habitat conditions and to cluster these conditions on the landscape.
- 8C-014 Regenerate pine forest types artificially or naturally to native pine species that commonly occur within the same land type association. Regenerate pine-hardwood forest types artificially or naturally to mixed pine-hardwood stands of native species that commonly occur within the same land type association.
- 8C-015 Manage regeneration harvest areas with the following rotation ages:

Upland hardwoods	120-140
Cove hardwoods	100-120
White pine	80-100
Yellow pine	80-100
Scarlet oak/Black oak	80-100

Non-timber Forest Products

- 8C-016 Commercial and personal use firewood collecting is allowed.

Prescribed Fire and Wildland Fire Use

- 8C-017 Prescribed fire and wildland fire use are allowed to: create openings that stimulate soft mast production and browse; encourage oak sprouting; maintain, restore, and enhance native forest communities; ensure the continued presence of fire-dependent ecosystems; improve threatened,

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endangered, sensitive, and locally rare species habitat; and reduce fuel buildups. It is also used in conjunction with site preparation to accomplish silvicultural treatments.

Recreation

8C-018 Wildlife openings, including linear strips, are signed to protect established vegetation from recreational use (e.g. horseback riding, mountain biking, OHV use, and camping) when a reoccurring problem exists.

8C-019 These areas are unsuitable for designation of new OHV routes or ATV use areas, unless crossing the area is the only feasible alternative or results in less environmental impact.

8C-020 Mountain bike use may be restricted if negatively impacting denning habitat.

Scenery

8C-021 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	M	M	M	L	L	L

8C-022 Management activities are designed to meet or exceed a high Scenic Integrity Objective in semi-primitive motorized and non-motorized areas within this prescription area.

8C-023 Clustering of early successional habitats occurs primarily within scenic classes 3 through 7.

Minerals

8C-024 These areas are available for federal oil and gas leasing with controlled surface use to protect the semi-primitive core areas. Other Federal minerals may be available on a case-by-case basis after full consideration of effects on black bear and semi-primitive recreation opportunities.

8C-025 Permit mineral materials for commercial, personal, free, and administrative use purposes with conditions to protect the semi-primitive core areas.

Roads

8C-026 Road construction, reconstruction, and decommissioning are informed by a watershed-scale or site-specific road analysis.

8C-027 Do not increase current open system road density levels calculated across each prescription block.

Lands and Special Uses

8C-028 These areas are unsuitable for designation of new utility corridors, utility rights-of-way, or communication sites. Continue existing uses.

8E1 RUFFED GROUSE/WOODCOCK HABITAT EMPHASIS**8E1 RUFFED
GROUSE/
WOODCOCK
HABITAT
EMPHASIS**

This management prescription is allocated to approximately 16,100 acres (2%) across the Forest.

EMPHASIS:

This area emphasizes providing optimal habitat for the ruffed grouse, an economically important small game bird that has experienced population declines throughout its range. Management activities are designed to: 1) sustain a distribution of early successional habitat conditions interspersed throughout a forested landscape; 2) provide dense stands of saplings in the 5-20 year age group for hiding and thermal cover; 3) provide regenerating stands 3-7 years of age that still have a significant herbaceous component along creek bottoms, damp swales, and lower north or east slopes for brood habitat; 4) optimize hard and soft mast production; 5) provide drumming platforms; and 6) control access during critical nesting and brood-rearing seasons.

DESIRED CONDITION:

The landscape character of this area retains a natural, forested appearance. A mosaic of early successional habitat patches of various sizes are interspersed throughout a predominately forested landscape. The area also contains both forest communities greater than 100 years of age and permanent herbaceous openings providing both wildlife habitat diversity and visual diversity.

Although this management prescription is specifically designed for optimum ruffed grouse and woodcock habitat, other wildlife species associated with early successional forest habitats and mixed landscapes expected to inhabit these areas include: eastern towhee, white-eyed vireo, least weasel, whip-poor-will, and orchard oriole. Riparian areas found within this management prescription provide suitable habitat for early successional riparian species like the star-nosed mole, eastern ribbon snake, and golden-banded skipper. At higher elevations optimum habitat for golden-winged warbler and chestnut-sided warbler is also provided. This management prescription also provides suitable habitat for eastern wild turkey and black bear.

The mix of forest communities desired varies by the landtype associations in which this prescription is allocated; however, the canopy generally consists of a mixed hardwood forest composed primarily of oaks and hickories in the uplands interspersed with pockets of white pine. Poplar, birch, and hemlock increase as moisture availability increases downslope to the coves. Southern yellow pines increase as sites become drier towards the ridge tops and on southern-faced slopes. The overstory is relatively closed, multi-layered, and moderately to densely stocked. The midstory is also multi-layered, composed of a diversity of shrubs, vines, grape arbors, and saplings.

A mix of forest successional stage characterizes these areas, but the focus is on the mosaic of early successional habitat patches within a largely forested landscape. Ten - 16 % of the prescription area consists of a dispersed system of permanent openings and transitory openings created through both natural disturbance events and forest management activities. Early successional forest provides several important habitat components that change over time unless a patch is maintained every one to three years through mowing or herbicide applications. Timber management in these areas is designed to provide transitional early successional habitat over time, as well as a full spectrum of age classes between the early- and late-successional stages. Scattered small patches of early successional forest habitat within the riparian corridor are important for woodcock because grassy and thicket areas near water provide prime nesting and display grounds.

**8E1 RUFFED
GROUSE/
WOODCOCK
HABITAT
EMPHASIS**

The grass-forb component, important for grazers and species that feed on insects, is created immediately following a disturbance event and quickly becomes a dense herbaceous understory of shrubs and young trees which provides both hiding cover and soft mast for food. The forested edges created by the opening are prime hunting territory for both avian and fur-bearing predators. As the young forest matures into pole-sized trees, the dense overhead cover provides protection from flying and perching predators and shades out the dense understory, increasing the visibility of approaching predators like fox and bobcats. After about 40 years, the forest begins producing hard mast like acorns and pine seeds, which are critical for the winter diet of many species in the southern Appalachians.

In addition, it is an objective to have a minimum of ten percent of the area in late-successional to old growth forest conditions. Trees greater than 120 years of age may occur throughout the prescription area as individuals or small groups. Portions of this prescription area are managed by natural processes and prescribed fire and contribute to the older aged forest component across the prescription area. These lands include riparian areas, areas of low productivity like shale barrens, and lands where commercial timber harvest is uneconomical. The resulting landscape structure of this land allocation provides a forest matrix considered marginal for linking large and medium-sized late successional to old growth patches. Cavity trees, cull trees, standing dead trees, and down logs are common throughout the area as a result of natural mortality.

Prescribed fire plays an important role in the maintenance of many of the forested communities found throughout this management prescription. Prescribed fire is frequently used to encourage oak sprouting and reduce competition from more shade tolerant species, to restore and maintain threatened and endangered species habitats, and to ensure the continued presence of fire-dependent southern yellow pine ecosystems. Prescribed fire and commercial timber harvest are employed to maintain the hard mast-producing capabilities of the forest communities containing oaks and hickories.

The recreation experience in this area is not considered remote, although open road densities may be fairly low. Access is provided through portions of the area on Forest Service and State roads with a gravel or native surface. Roads may occasionally be paved. Unlicensed off-road vehicles use may occasionally occur on designated trails in the area, but is generally discouraged to provide wildlife habitat security. Challenging opportunities may exist for high-clearance and 4-wheel drive vehicles on open roads.

Forest visitors on foot, horse, or bikes rarely experience feelings of solitude, challenge, or risk. Comfort, sanitation, and camping facilities are not provided, although primitive camping can be enjoyed throughout the area. During most of the year, encounters with other forest visitors can be expected; however these encounters are more frequent during spring and fall hunting seasons. This area provides outstanding opportunities for wildlife viewing and hunting.

OBJECTIVES

- 8E1-OBJ1 Maintain a minimum of ten percent of the prescription area in early successional forest habitat conditions (stand age less than 10 years, openings 5 acres in size and greater).
- 8E1-OBJ2 Maintain a minimum of ten percent of the area in late-successional to old growth forest conditions greater than 100 years of age.
- 8E1-OBJ3 Maintain up to 2 percent of the riparian corridor (Management Prescription 11 located within Management Prescription 8E1) in early successional forest habitat conditions in openings 2 to 5 acres in size.

- 8E1-OBJ4 Maintain an open road density at or below 1.5 miles per square mile (applies to National Forest System roads only).

**8E1 RUFFED
GROUSE/
WOODCOCK
HABITAT
EMPHASIS**

STANDARDS

Water, Soil, and Air

- 8E1-001 Early successional habitat openings are a minimum of 25 feet from perennial streambanks.
- 8E1-002 Early successional habitat openings larger than 5 acres may extend into the adjacent upland areas, as long as the opening area within the riparian corridor (Management Prescription 11) is not greater than 5 acres in size.

Rare Communities and Old Growth

- 8E1-003 Patches of old growth allocated to management prescriptions 6A, 6B, or 6C within an 8E1 management prescription block contribute to the objective of a minimum of ten percent of the area in late-successional to old growth forest conditions.

Terrestrial and Aquatic Species

- 8E1-004 Retain an average of one large (>12" d.b.h.) down trees per acre as drumming logs.
- 8E1-005 Maintain or increase pine stands to provide winter thermal cover.
- 8E1-006 Limit creation of early successional forest habitat to 16 percent of forested acres (based on the contiguous prescription area).
- 8E1-007 Existing old fields, pastoral areas, wildlife openings, and other wildlife habitat improvements may be present and maintained. Expansion of existing openings and/or creation of new openings may occur; however, transitional openings that move through the dense pole stage are preferred over permanent wildlife openings. Non-invasive non-natives are sometimes used when establishing food plants for wildlife, but native species are preferred. Some openings provide permanent shrub/sapling habitats as a result of longer maintenance cycles.

Vegetation and Forest Health

- 8E1-008 Retain patches of coniferous cover during site preparation and timber stand improvement activities when consistent with overall regeneration and species composition objectives.
- 8E1-009 To achieve the structural habitat conditions for ruffed grouse, retain <20 square feet of residual basal area per acre in harvest units, favoring oaks of mast-producing size as residuals.
- 8E1-010 Retain high stem density evergreen shrub thickets on at least 5-10% of the area to provide cover for adult ruffed grouse.
- 8E1-011 Maintain mature/immature oak "edges" with high stem density for grouse.
- 8E1-012 Maintain brushy edge around permanent wildlife openings for grouse. Encourage or plant soft mast-producing species in this zone.
- 8E1-013 Regenerate pine forest types artificially or naturally to native pine species that commonly occur within the same land type association. Regenerate pine-hardwood forest types artificially or naturally to mixed pine-hardwood stands of native species that commonly occur within the same land type association.

**8E1 RUFFED GROUSE/
WOODCOCK HABITAT EMPHASIS**

- 8E1-014 Manage for a diversity of oak species to minimize yearly fluctuations in acorn supplies.
- 8E1-015 The forest health strategy is to minimize the occurrence of pest problems by managing host-type conditions. Suppression of pests, both non-native and native, is accomplished with all available integrated pest management tools.

Timber Management

- 8E1-016 These areas are suitable for timber production.
- 8E1-017 Primary regeneration harvest method is clearcutting (with 6 reserve trees per acre for potential Indiana bat roost trees). Coppice with reserve harvests may be used where scenery concerns override habitat needs.
- 8E1-018 Regeneration units range from 5 to 20 acres in size, the optimum size of clearcuts for ruffed grouse.
- 8E1-019 Manage regeneration harvest areas with the following rotation ages:

Upland hardwoods	80-100
Cove hardwoods	70-90
White pine	60-80
Yellow pine	60-80
Scarlet oak/Black oak	60-80

Prescribed Fire and Wildland Fire Use

- 8E1-020 Prescribed fire and wildland fire use are allowed to: create a mosaic of early successional habitat patches; create openings that stimulate soft mast production and browse; encourage oak sprouting; maintain, restore, and enhance native forest communities; ensure the continued presence of fire-dependent ecosystems; improve threatened, endangered, sensitive, and locally rare species habitat; and reduce fuel buildups. It is also used in conjunction with site preparation to accomplish silvicultural treatments.

Recreation

- 8E1-021 Wildlife openings, including linear strips, are signed to protect established vegetation from recreational use (e.g. horseback riding, mountain biking, OHV use, and camping) when a reoccurring problem exists.
- 8E1-022 Designated OHV routes and mountain bike use may be restricted if negatively impacting nesting or brood-rearing habitat.

Scenery

- 8E1-023 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	M	L	L	L	L	L

8.E.2 PEAKS OF OTTER SALAMANDER HABITAT CONSERVATION AREAS

8E2 PEAKS OF OTTER SALAMANDER HABITAT CONSERVATION AREAS

This management prescription is allocated to approximately 7,700 acres (1%) on the Glenwood Ranger District; divided into a primary habitat conservation area (2,400 acres) suitable for timber production and a secondary habitat conservation area (5,300 acres) suitable for timber production. The Peaks of Otter salamander (*Plethodon hubrichti*) is a USDI Fish and Wildlife Service and Commonwealth of Virginia “species of special concern” and a Forest Service “sensitive” species. The worldwide range of this species is restricted to Virginia in the counties of Bedford, Botetourt, and Rockbridge, primarily on lands of the Jefferson National Forest and the Blue Ridge Parkway.

8E2a PEAKS OF OTTER SALAMANDER PRIMARY HABITAT CONSERVATION AREA

The entire Peaks of Otter salamander Habitat Conservation Area is approximately 20,700 acres and includes Blue Ridge Parkway lands, as well as management prescription 1A, 4A, 4K1, 5B, and 12A (See Figure 3.2). This desired condition and standards are incorporated into these other prescriptions.

8E2a Peaks of Otter Salamander Primary Habitat Conservation Area

EMPHASIS:

Management of these lands emphasizes maintaining and enhancing Peaks of Otter salamander habitat to assure its continued survival and reproduction on the Jefferson National Forest. Management is in accordance with the guidelines of the *Habitat Conservation Agreement for the Peaks of Otter Salamander* (August 26, 1997) between the USDA Forest Service, the USDI Park Service, and the USDI Fish and Wildlife Service. Connectivity of unaltered or enhanced habitat for the Peaks of Otter salamander is emphasized.

Throughout this chapter, management prescriptions which encompass the Peaks of Otter salamander habitat conservation area reference the desired condition and standards in this management prescription (8E2). 8E2 includes both primary (8E2a) and secondary (8E2b) habitat conservation areas and the applicable standards will be followed. (See Figure 3.2)

DESIRED CONDITION:

Within this area, habitats are managed to maintain or enhance Peaks of Otter salamander populations. The landscape character of this area consists of a closed forest canopy of late-successional stages of oak, poplar, and maple woodlands, hardwoods mixed with eastern hemlock, hemlock forests, and rhododendron thickets. Cool, moist habitats with abundant ground cover in the form of rocks, down and decaying logs, and leaf litter are maintained and restored. Open grassy areas and areas without vegetation, like roads, trails, and utility rights-of-way are minimized. Soils are deep, uncompacted, and high in organic matter allowing opportunities for the salamanders to burrow into the soil for protection from the elements. Salamander food items such as small insects, spiders, earthworms, and other small invertebrates are plentiful.

The landscapes of the Peaks of Otter Salamander primary habitat conservation area retain a natural, forested appearance. A regionally distinctive landscape features rock outcroppings, waterfalls, cascading mountain streams, and a structurally diverse mid- to late-successional forest community with a continuous forested canopy. The valued character of the natural evolving landscape is intact. There are no noticeable deviations.

The mix of forest communities vary by landtype association, including mixed mesophytic and mesic oak hickory forests dominated by red, white, chestnut, and black oaks, as well as tulip poplar, sugar and red maples, and hemlocks. The overstory is primarily closed with minimal sunlight reaching the forest floor; however, naturally occurring brushy and herbaceous openings may occasionally be found. Overstory stocking ranges from 80-140

square feet of basal area per acre or higher. The mid-story is multi-layered and composed of a diversity of shrubs, vines, grape arbors, and saplings. The forest floor contains an abundance of shade-loving herbaceous plants, which provide foraging sites for the Peaks of Otter salamander. Natural processes eventually result in a large patch old growth forest matrix throughout much of the area. Cavity trees, cull trees, standing dead trees, and down logs are common throughout the entire area as a result of natural mortality. All forested blocks are interconnected by corridors which themselves have a continuous forest canopy.

8E2a PEAKS OF
OTTER
SALAMANDER
PRIMARY
HABITAT
CONSERVATION
AREA

Wildlife species associated with area-sensitive mid- to late-successional deciduous forest habitats expected to inhabit this area include ovenbird, cerulean warbler, black-billed cuckoo, and Swainson's warbler. This management prescription also provides optimal to suitable habitat for black bear and other mid- to late-successional species including Peaks of Otter salamander, southern pigmy shrew, downy woodpecker, eastern gray squirrel, eastern fox squirrel, and sharp-shinned hawk.

This primary habitat conservation area is unsuitable for timber production and commercial timber harvest. Removal of non-native vegetation and species limiting growth of hardwoods is considered appropriate. Sufficient canopy trees and large woody debris on the forest floor are maintained to reduce drying of subsurface soils. Biological pesticide controls of gypsy moth, hemlock woolly adelgid, and other detrimental species are permitted with full consideration of the effects on the salamanders, their microhabitat, and their prey.

The role of fire in maintaining some natural communities within this area is recognized as an important management tool. Management may include the use of prescribed fire on dry sites supporting rare plants and unique natural communities, accompanied by studies of the effects of this activity on salamander populations. Wildland fires are usually contained or controlled, although heavy equipment use is minimized within the prescription area.

Low-impact (dispersed) recreational uses of the Peaks of Otter area are compatible with the long-term conservation of the Peaks of Otter salamander. These include hiking, hunting, backpacking, picnicking, photography, and wildlife study. Existing trails and roads are used for access to specified areas for these activities, although decommissioning of existing roads may occur. Mountain bike and horse riding occur only on designated roads and trails. Off-road vehicle use is prohibited. Educational materials describing the Peaks of Otter salamander, its unique geographical distribution, its habitat, fragility, and conservation efforts are readily available to visitors of the area. The Peaks of Otter salamander is actively protected against collection and killing, except for specified scientific purposes.

Limited access is provided through portions of the area on Forest Service and State roads with gravel, native, and occasionally paved surfaces. The opportunity to encounter other visitors is high along the Parkway and at parking areas, pull-outs, and overlooks. Forest visitors on foot, horse, or bicycles experience solitude in portions of this prescription area away from the Blue Ridge Parkway. Comfort, sanitation, and camping facilities on Forest Service lands are not provided, although primitive camping can be enjoyed throughout the area. During most of the year, occasional encounters with other forest visitors can be expected, however these encounters are more frequent during spring and fall hunting seasons.

Management activities limit negative impacts of fragmentation, isolation, and edge effects (such as drying from decreased insulation, impacts from edge predators, invasion of non-native invasive plants, and increased competition from other salamander species). No new permanent roads are constructed. New trail and temporary road construction only occurs when it is necessary to provide access to areas outside the primary habitat

**8E2a PEAKS OF
OTTER
SALAMANDER
PRIMARY
HABITAT
CONSERVATION
AREA**

conservation area that could not otherwise be accessed. Restoration of canopy and cover along temporary and decommissioned roads occurs quickly. Canopy closure along road rights-of-way is common. Trail and road reconstruction, minor relocation, and new parking facilities are permitted. All activities are conducted with full consideration of effects on Peaks of Otter salamander populations.

**8E2b PEAKS OF
OTTER
SALAMANDER
SECONDARY
HABITAT
CONSERVATION
AREA**

The foreground the Appalachian National Scenic Trail encompasses a portion of this management prescription. Within the foreground of the Appalachian Trail, management practices are designed to achieve the desired condition of this management prescription as well as protect the Appalachian Trail experience, strengthen the role of volunteers and volunteer organizations, provide opportunities for high quality outdoor recreation experiences, and provide for the conservation and enjoyment of the nationally significant scenic, historic, natural and cultural qualities of the land through which the Appalachian Trail passes when compatible with conservation of Peaks of Otter salamander populations. Activities within the Appalachian Trail foreground are planned and carried out in cooperation with appropriate Appalachian Trail management partner(s).

8E2b Peaks of Otter Salamander Secondary Conservation Area

EMPHASIS:

Management of these lands emphasize maintaining Peaks of Otter salamander habitat to assure its continued existence on the Jefferson National Forest while also providing wildlife habitat for other species and taking a more active role in maintaining and enhancing the health of oak and mixed oak forest communities through vegetation management. Research and monitoring to determine the effects of multiple use management activities on the Peaks of Otter salamander are an important component of this prescription. Management is in accordance with the guidelines of the *Habitat Conservation Agreement for the Peaks of Otter Salamander* (August 26, 1997) between the USDA Forest Service, the USDI Park Service, and the USDI Fish and Wildlife Service.

DESIRED CONDITION:

Within this area, habitats are managed to maintain or enhance Peaks of Otter salamander populations while also providing habitat for other mid-to-late successional forest species and maintaining forest health and vigor. The landscape character of this area consists of mid- to late-successional forest communities of oak, hickory, and tulip poplar woodlands, hardwoods mixed with eastern hemlock, hemlock forests, and rhododendron thickets. Newly regenerated and younger aged forest stands are found dispersed throughout the area. Cool, moist habitats with abundant ground cover in the form of rocks, down and decaying logs, and leaf litter are maintained and restored. Areas without vegetation, like roads, trails, and utility rights-of-way are minimized. Soils are deep, uncompacted, and high in organic matter allowing opportunities for the salamanders to burrow into the soil for protection from the elements. Salamander food items such as small insects, spiders, earthworms, and other small invertebrates are plentiful.

Wildlife species associated with area-sensitive mid- to late-successional deciduous forest habitats expected to inhabit this area include ovenbird, cerulean warbler, black-billed cuckoo, and Swainson's warbler. This management prescription also provides optimal to suitable habitat for black bear and other mid- to late-successional species including Peaks of Otter salamander, southern pigmy shrew, downy woodpecker, eastern gray squirrel, eastern fox squirrel, and sharp-shinned hawk. The presence of small amounts of varied successional stages also provide habitat for such species as eastern towhee, regal fritillary, white-eyed vireo, wild turkey, whitetail deer, ruffed grouse. Existing open, brushy or herbaceous areas are maintained in the secondary habitat conservation area, providing both visual and habitat diversity.

The landscapes of the Peaks of Otter Salamander secondary habitat conservation area retain a natural, forested appearance. A regionally distinctive landscape features rock outcroppings, waterfalls, cascading mountain streams, and a structurally diverse mid- to late-successional forest community with a continuous forested canopy, with the exception of occasional pastoral and historic/cultural enclaves. The valued character of the natural appearing and cultural landscapes either appears intact or is actually intact. There are no noticeable deviations.

8E2b PEAKS OF
OTTER
SALAMANDER
SECONDARY
HABITAT
CONSERVATION
AREA

The mix of forest communities desired varies by the landtype associations contained within this prescription; however, emphasis is on the mixed mesophytic and mesic oak hickory forest communities dominated by red, white, chestnut, and black oaks, as well as tulip poplar and hemlocks. Overstory stocking ranges from 50 to 140 square feet of basal area per acre or higher, with overstory removal occurring only after a new age class which forms a continuous canopy is established in order to maintain shade on the forest floor. Structural diversity within mixed mesophytic and dry-to-mesic oak forest communities may be enhanced through commercial and non-commercial vegetation management activities. No more than 4% of the prescription area contains early seral habitat in the 0-10 year old age class. Cavity trees, cull trees, standing dead trees, and down logs are common throughout the entire area as a result of natural mortality. All forested blocks are interconnected by corridors which themselves have a continuous forest canopy.

The role of fire in maintaining some natural communities within this area is recognized as an important management tool. Management may include the use of prescribed fire on dry sites supporting rare plants and unique natural communities, accompanied by studies of the effects of this activity on salamander populations. Wildland fires are usually contained or controlled, although heavy equipment use is minimized within the prescription area.

Low-impact (dispersed) recreational uses of the Peaks of Otter area are compatible with the long-term conservation of the Peaks of Otter salamander. These include hiking, hunting, backpacking, picnicking, photography, and wildlife study. Existing trails and roads are used for access to specified areas for these activities, although decommissioning of existing roads may occur. Mountain bike and horse riding occur only on designated roads and trails. Off-road vehicle use is prohibited. Educational materials describing the Peaks of Otter salamander, its unique geographical distribution, its habitat, fragility, and conservation efforts are readily available to visitors of the area. The Peaks of Otter salamander is actively protected against collection and killing, except for specified scientific purposes.

Limited access is provided through portions of the area on Forest Service and State roads with gravel, native, and occasionally paved surfaces. The opportunity to encounter other visitors is high along the Parkway and at parking areas, pullouts, and overlooks. Forest visitors on foot, horse, or bicycles experience solitude in portions of this prescription area away from the Blue Ridge Parkway. Comfort, sanitation, and camping facilities on national forest system lands are not provided, although primitive camping can be enjoyed throughout the area. During most of the year, occasional encounters with other forest visitors can be expected, however these encounters are more frequent during spring and fall hunting seasons.

Management activities limit negative impacts of fragmentation, isolation, and edge effects (such as drying from decreased insulation, impacts from edge predators, invasion of non-native invasive plants, and increased competition from other salamander species). No new permanent roads are constructed. New trail and temporary road construction are permitted. Restoration of canopy and cover along temporary and decommissioned roads occurs quickly. Canopy closure along road rights-of-way is common. Trail and road reconstruction, minor relocation, and new parking facilities are permitted. Mineral activities associated with reserved and outstanding mineral rights may be observed.

**8E2b PEAKS OF
OTTER
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HABITAT
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AREA**

However, leasable mineral activities and use of mineral materials are not be apparent within the area. All activities are conducted with full consideration of effects on Peaks of Otter salamander populations.

The foreground the Appalachian National Scenic Trail encompasses a portion of this management prescription. Within the foreground of the Appalachian Trail, management practices are designed to achieve the desired condition of this management prescription as well as protect the Appalachian Trail experience, strengthen the role of volunteers and volunteer organizations, provide opportunities for high quality outdoor recreation experiences, and provide for the conservation and enjoyment of the nationally significant scenic, historic, natural and cultural qualities of the land through which the Appalachian Trail passes when compatible with conservation of Peaks of Otter salamander populations. Activities within the Appalachian Trail foreground are planned and carried out in cooperation with appropriate Appalachian Trail management partner(s).

STANDARDS

The following standards are also applicable to Management Prescriptions 4A, 4K, 6A, 6C, 7F, and 12A within the Peaks of Otter salamander habitat conservation area on the Glenwood Ranger District.

These standards are applicable to both the primary (8E2a.) and secondary (8E2b.) habitat conservation area unless otherwise indicated.

Terrestrial and Aquatic Species

- 8E2-001 Management for other plant and animal species is evaluated during project level analysis to determine the direct, indirect, and cumulative effects on Peaks of Otter salamander and its habitat.
- 8E2-002 Existing wildlife openings can be maintained through mowing or burning. They are monitored to assess their effects on Peaks of Otter salamander populations. New wildlife openings and ponds are not allowed within the primary habitat conservation area.
- 8E2-003 Wildlife habitat improvements focus on the needs of the Peaks of Otter salamander and area sensitive mid- to late-successional habitat associates, limiting fragmented, isolated, and edge habitats. Early successional habitat conditions may be created within the **secondary habitat conservation area following the applicable standards under timber management**. Creation of early successional habitat within the **primary habitat conservation area** is prohibited.
- 8E2-004 Structural habitat improvements for fish and other aquatic species are allowed.

Threatened, Endangered, and Sensitive Species

- 8E2-005 Conflicts between Peaks of Otter salamander habitat management and other threatened, endangered, or sensitive species are evaluated on a case-by-case basis in consultation with USDI Fish and Wildlife Service.
- 8E2-006 Translocation, repatriation, and relocation of any Peaks of Otter salamander will not occur.

Rare Communities and Old Growth

- 8E2-007 Maintain rare communities in both the **primary and secondary habitat conservation areas**.

8E2-008 Old growth patches of all sizes and community types are maintained and restored.

Vegetation and Forest Health

8E2-009 Allow vegetation management activities within the **primary habitat conservation area** only to:

- ▶ Maintain or enhance Peaks of Otter salamander populations;
- ▶ Control non-native vegetation and species limiting the growth of hardwoods;
- ▶ Control or suppress gypsy moth, hemlock woolly adelgid, and other detrimental species, using integrated pest management techniques.
- ▶ Maintain rare plants and communities on dry sites;
- ▶ Reduce fuel hazard; or
- ▶ Maintain roads and trails.

8E2-010 Allow vegetation management activities within the **secondary habitat conservation area** to:

- ▶ Maintain or enhance Peaks of Otter salamander populations;
- ▶ Control non-native vegetation and species limiting the growth of hardwoods;
- ▶ Control or suppress gypsy moth, hemlock woolly adelgid, and other detrimental species, using integrated pest management techniques.
- ▶ Maintain rare plants and communities on dry sites;
- ▶ Provide habitat for mid- to late-successional wildlife species;
- ▶ Maintain forest health and vigor;
- ▶ Promote highly productive hardwood forests with closed canopies in stands that have not yet achieved these desired habitat conditions or where disturbances like gypsy moth have significantly altered stand conditions;
- ▶ Reduce fuel hazard; or
- ▶ Maintain roads and trails.

8E2-011 Vegetation management activities maintain sufficient canopy trees and large woody debris on the forest floor to reduce drying of subsurface soils.

8E2-012 Herbicides may be used to control or eliminate non-native and invasive plant species that are inconsistent with the long-term protection of Peaks of Otter salamander habitat. Use selective herbicide applications as opposed to broadcast treatments. Aerial spraying is not permitted.

8E2-013 Biological pesticide controls of gypsy moth, hemlock woolly adelgid, and other detrimental species are permitted with full consideration of the effects on the salamanders, their microhabitat, and their prey. Non-target species-specific chemical insecticides are not permitted.

8E2-014 A combination of timber harvest and biological pesticide controls may be implemented in the **secondary conservation area** to aid in the study of effects of non-native pests on the Peaks of Otter salamander.

8E2-015 Natural enemies of target pests should only be introduced once it has been determined that the introduced species will not negatively impact either the salamander directly, or the salamander's primary prey base (primarily ants and the insect order Collembola).

8E2 PEAKS OF
OTTER
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8E2 PEAKS OF
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Timber Management

- 8E2-016 The **primary habitat conservation area** is not suitable for timber production. Commercial timber harvest is not allowed.
- 8E2-017 The **secondary habitat protection area** is suitable for timber production. The remainder of the standards under this section refers only to the secondary habitat protection area.
- 8E2-018 Clearcutting is not allowed.
- 8E2-019 Leave at least 50 square feet of live basal area per acre evenly distributed over the harvest area.
- 8E2-020 The second entry will not occur until at least fifteen years after the initial harvest entry. Twenty years is preferable.
- 8E2-021 Harvest units will not be laid out immediately adjacent to areas known to have low Peaks of Otter salamander population densities (e.g., old clearcuts or shelterwood cuts with less than 50 square feet of basal area). Leave unmanaged timber surrounding these old harvest areas until such time as they have matured to the point that they display the characteristics of shading, moisture, and large woody debris that constitute good Peaks of Otter salamander habitat and support salamander populations similar to those found in adjacent mature stands. Harvest units may touch one another tangentially, but will not share a common boundary.
- 8E2-022 No more than 100 acres are harvested per year (averaged over a five year period) within the prescription area. This includes salvage sales.
- 8E2-023 Within harvest units:
- ▶ Retain at least 15 pieces (average) of large woody debris per acre, having a minimum small end diameter of 8 inches and a minimum length of 10 feet.
 - ▶ Treetops are lopped and left where the tree was felled. Minimum diameter of logs for removal is 8 inches at the small end.
 - ▶ Leave 5-15 standing dead trees per acre to provide a supply of future large woody debris, unless this would constitute a safety hazard. The number left will depend on what is available on the site. As a general guideline:
 - ▶ Leave 10-15 trees per acre when the average leave tree diameter breast height is 8-16 inches;
 - ▶ Leave 5-10 trees per acre when the average leave tree diameter breast height is 16-24 inches;
 - ▶ Leave 5 trees per acre when the average leave tree diameter breast height is 24 inches or greater.
- 8E2-024 Salvage sales will leave all green trees up to 50 square feet of basal area per acre, if available. Green trees in excess of 50 square feet per acre of basal area may be cut and removed if necessary to meet stand objectives through a shelterwood treatment method.
- 8E2-025 Timber harvest operations are suspended from April 15 to July 1 and from September 15 to November 1 to the maximum extent possible. These time periods correspond with the greatest amount of surface activity of the Peaks of Otter salamander.
- 8E2-026 Monitoring is conducted to determine that the objectives of maintaining Peaks of Otter salamander populations are being met. Monitoring to determine population recovery in harvested stands will follow the protocol being developed by the Declining Amphibian Populations Task Force, which

may be altered by the joint concurrence of the Forest Service, Blue Ridge Parkway, and Fish and Wildlife Service. Studies will continue to gather information on how long it takes for Peaks of Otter salamander populations to return to densities equivalent to those in adjacent mature stands. This information will help to modify management practices, if necessary.

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8E2-027 Manage regeneration harvest areas with the following rotation ages:

Upland hardwoods	120-140
Cove hardwoods	100-120
White pine	80-100
Yellow pine	80-100
Scarlet oak/Black oak	80-100

Non-Timber Forest Products

8E2-028 Personal use cutting of dead and down firewood is permitted within 100 feet of roads.

Wildland Fire Suppression

8E2-029 Ensure firefighter and public safety as the first priority. Secondly, protect property and natural and cultural resources based on the relative values to be protected. Wildland fire response is suppression with initial attack to minimize acreage burned. Suppression strategies will strive to minimize soil disturbance, as well as canopy and cover loss.

8E2-030 Minimize the use of soil-disturbing mechanized equipment when suppression can be achieved with other methods. Avoid moist habitats during line construction when fire conditions allow.

8E2-031 Rehabilitate all firelines as quickly as possible through reseeding and dragging cover objects into the line.

Prescribed Fire and Wildland Fire Use

8E2-032 Prescribed fires are permitted predominately on drier sites supporting rare plants or unique natural communities. Prescription for fire will ensure low mortality of canopy vegetation and low risk of escape. Stand replacing prescribed fires are not allowed.

8E2-033 Monitor effects of prescribed fire on Peaks of Otter salamander populations following prescribed fires.

8E2-034 When their use cannot be avoided, locate disked/bladed/plowed firelines outside of moist habitats.

8E2-035 Rehabilitate all firelines as quickly as possible through reseeding and dragging cover objects into the line.

Recreation

8E2-036 New developed recreation facilities are not allowed.

8E2-037 Informational kiosks describing the Peaks of Otter salamander, its unique geographical distribution, its habitat, fragility, and conservation efforts are encouraged.

8E2-038 Trail construction, reconstruction, and relocation are allowed after full consideration of effects on Peaks of Otter salamander populations.

8E2-039 Motorized access is limited to currently existing roads. Off-road and all-terrain vehicles are not permitted.

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Appalachian National Scenic Trail

- 8E2-040 Appalachian Trail management activities are allowed after full consideration of effects on Peaks of Otter salamander populations.
- 8E2-041 Within the foreground of the Appalachian Trail, all activities will be planned and carried out in cooperation with the appropriate Appalachian Trail management partner(s). See Management Prescription 4A for additional management direction applicable to this corridor.

Scenery

- 8E2-042 Scenic integrity objective is very high within the **primary habitat conservation area** and high within the **secondary habitat conservation area**.

Range

- 8E2-043 Livestock grazing is not permitted.

Minerals

- 8E2-044 The **primary and secondary habitat protection areas** are administratively unavailable for federal oil and gas leasing or other Federal mineral leases. These areas are not available for commercial, personal, or free use mineral materials. Administrative use of mineral materials is allowed when a) the materials are used within the habitat protection area itself; and b) use is necessary to protect Peaks of Otter salamander habitat.

Roads

- 8E2-045 Do not permit new system road construction, subject to valid existing rights and leases.
- 8E2-046 Decommission roads not needed for recreation access or administration, fire suppression, or vegetation management.
- 8E2-047 Road improvements, minor relocation, and development of parking facilities are permitted after full consideration of effects on Peaks of Otter salamander populations.
- 8E2-048 Keep felling and removal of roadside vegetation to the minimum needed for public safety.
- 8E2-049 Within the **primary habitat conservation area**, limit temporary road construction to occasional short crossings to provide access to areas outside the primary habitat conservation area that could not otherwise be accessed.
- 8E2-050 Within the **secondary habitat conservation area**, allow temporary road construction after full consideration of effects on Peaks of Otter salamander populations. Following use, temporary roads are scarified, reseeded with native or desirable non-native vegetation, and cover objects (logs or rocks) are dragged into the road.

Lands and Special Uses

- 8E2-051 The **primary habitat conservation area** is unsuitable for new special uses, except for research and outfitter-guide operations. Phase out existing non-conforming uses and allow to revegetate naturally.
- 8E2-052 Allow commercial use by outfitters and guides if compatible with preservation of the **primary habitat conservation area**. Do not allow contest events such as foot races or horseback endurance events. Require outfitters and guides to use leave-no-trace techniques. Do not allow permanent camps.

8E2-053 Within **secondary habitat conservation area**, new special use proposals are analyzed on a case-by-case basis to determine the potential effects on the Peaks of Otter salamander.

8E2-054 Do not permit collection or killing of Peaks of Otter salamanders. Scientific field investigations conducted by reputable institutions/individuals may be authorized on a case-by-case basis.

8E2 PEAKS OF
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8E4 INDIANA BAT HIBERNACULA PROTECTION AREAS

8E4 INDIANA
BAT
HIBERNACULA
PROTECTION
AREAS

Indiana bat "hibernacula"⁴ protection areas are divided into two management prescriptions: the Primary Cave Protection Area (900 acres) and the Secondary Cave Protection Area (8,800 acres). These Protection Zones are explained in more detail below.

The Indiana bat (*Myotis sodalis*) is a Federally listed endangered species that occurs in several locations across western Virginia. Indiana bats are known to be hibernating in two caves located on the Jefferson National Forest: Shire's Cave on the New Castle Ranger District; and Kelly Cave on the Clinch Ranger District. Both of these caves are gated to protect Indiana bat hibernaculum. In addition, portions of the primary and secondary cave protection areas surrounding caves located on private land are also located on the Jefferson National Forest. These include Rocky Hollow Cave in Wise County, VA; Newberry-Bane Cave in Bland County, VA; and Patton Cave in Monroe County, WV. To provide protection for Indiana bats and their habitat, this management prescription is allocated to approximately 9,700 (1%) acres across the Forest.

These prescription areas are intended to contribute to the goals of reversing population declines and reestablishing healthy populations of Indiana bats across the eastern United States. Management is based on the guidelines of the Indiana Bat Recovery Strategy for the George Washington and Jefferson National Forests (April, 1997).

⁴ Hibernacula refers to caves in which bats hibernate and is used interchangeably with caves throughout this document. The singular form is hibernaculum.

Management activities are designed to: 1) protect hibernacula (caves in which the bats spend the winter); 2) maintain and enhance upland and riparian swarming and foraging areas; and 3) identify and protect summer roosting and maternity site habitat. The proposed conservation measures identified in the Indiana Bat Recovery Strategy for the protection and promotion of habitat for Indiana bats on the Jefferson National Forest are applied at three scales:

- 1) A **primary cave protection area** as consisting of a radius of no less than one half mile around each hibernaculum, defined by national forest surface ownership and topography. This area is intended to protect the integrity of the cave and the immediate surrounding uplands where bats may swarm and forage in the fall.
- 2) A **secondary cave protection area** as consisting of a radius of approximately 1 ½ miles around each primary cave protection area, defined by easily recognizable features on the ground. This area is designed to further maintain and enhance swarming, foraging, and roosting habitat.
- 3) Because Indiana bats are known to travel over 200 miles between winter and summer habitats, standards are also applied to the Jefferson National Forest as a whole. These can be found specifically in the Forestwide Direction, Chapter Two, Indiana Bat Management. These standards are designed to protect foraging areas; non-cave associated roosts and maternity sites, if any are discovered on the Forest.

**8E4a INDIANA
BAT PRIMARY
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8E4a. Indiana Bat Primary Cave Protection Area

EMPHASIS:

Within this prescription area, habitats are managed to maintain, restore, and enhance Indiana bat populations. Management of the primary cave protection area is focused on protecting the watershed of the cave along with maintaining and enhancing the surrounding environment where bats swarm, forage, and roost. Timber harvest is not appropriate within this prescription area.

DESIRED CONDITION:

This prescription area includes caves known to contain the Indiana bat, as well as the primary cave protection areas surrounding these hibernacula. Indiana bat hibernacula maintain winter temperatures between 39° and 50° F, and relative humidity above 54%. The hydrologic functioning, atmospheric conditions, and structural integrity of these caves are maintained. The ability of bats to enter, exit and move within hibernacula is unhampered. They are free from human disturbance from September 1 until June 1, when bats are hibernating and swarming. It is a long-term goal to acquire lands surrounding caves within the Forest’s proclamation boundary that are known to contain the Indiana bat.

The landscapes of these areas predominately feature a structurally diverse older aged forest community with a continuous forested canopy. Grazed pastures are maintained and open woodlands may be restored through prescribed fire or wildland fire use. These types of open habitats provide direct sunlight to roost trees and abundant Indiana bat prey. Cavity trees, cull trees, standing dead trees, storm and fire damaged live trees, and down logs are common throughout the area. Active roost trees are identified and protected from disturbance. At least six roost trees that retain slabs of exfoliating bark, greater than nine inches in diameter, with at least some daily exposure to sunlight are provided per acre. Indiana bat movement and flight paths are not restricted by dense understory vegetation. Indiana bat prey, such as flying insects, are abundant in terms of both numbers of individuals and diversity of species.

Natural processes eventually result in large patches of late successional to old growth forests. Activities to benefit bat habitat are limited to management of forest visitors, prescribed fire, wildland fire use, domestic livestock grazing, selected non-commercial tree cutting, and integrated pest management to control non-native invasive species like gypsy moth and autumn olive. Occasional gaps may occur naturally or purposefully to increase sunlight exposure on selected roost trees. No activities which could lead to disruption of the cave environment or the “taking⁵” of an Indiana bat occur in this area.

⁵ The term "take" is defined by the Endangered Species Act and US Fish and Wildlife Service as any act which adversely affects a listed species including killing, harassing, harming, pursuing, hunting, capturing, or collecting a listed animal. "Harm," in turn, may include significant habitat modification or degradation where it actually kills or injures a listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

Insects and diseases play a natural role in shaping future plant and animal species composition and successional stages across these areas; however, non-native vegetation occurs only as transients and is not self-perpetuating. Biological or species-specific pesticide controls of gypsy moth, hemlock woolly adelgid, autumn olive, and other non-native species are permitted with full consideration of the effects on the Indiana bat, their habitat, and their prey. Timber harvest and pesticide controls may be implemented to aid in the study of effects of non-native pests on the Indiana bat.

Drinking water sources are available in created upland or ridgetop ponds. Ponds typically adjoin mature forest and most have a flight corridor, such as a pasture, road or wildlife linear strip, leading into them. Existing wildlife openings may be maintained. Aside from Indiana bats, wildlife species associated with mid- to late-successional deciduous forest habitats that are

expected to inhabit this area include: hooded warbler, southern pigmy shrew; whip-poor-will; least weasel, downy woodpecker; eastern gray squirrel; and orchard oriole. Because the landscapes in which this prescription lie, including private lands, are over 70% forest cover, one could also expect to find area-sensitive mid- to late-successional forest species including: ovenbird, cerulean warbler, black-billed cuckoo, and Swainson's warbler. This management prescription also provides suitable habitat for eastern wild turkey and black bear.

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Low-impact (dispersed) recreational uses of these prescription areas are compatible with the long-term conservation of the Indiana bat. These include hiking, hunting, backpacking, picnicking, photography, and wildlife study. Spelunking may be allowed when the bats are not using the caves for hibernation. Existing trails and roads are used for access to specified areas for these activities, although decommissioning of existing roads may occur. Off-road vehicle use is prohibited. Educational materials describing the Indiana bat, its geographical distribution, its habitat, fragility, and conservation efforts are readily available to visitors of the area. The Indiana bat is actively protected against collection and killing, except for specified scientific purposes. Trail and road reconstruction, minor relocation, and new parking facilities are permitted. All activities are conducted with full consideration of effects on Indiana bat populations.

**8E4b INDIANA
BAT SECONDARY
CAVE
PROTECTION
AREAS**

8E4b. Indiana Bat Secondary Cave Protection Area

EMPHASIS:

Within this prescription area, habitats are managed to maintain, restore, and enhance Indiana bat populations. The goals of the secondary cave protection area are to maintain and enhance swarming, roosting, and foraging habitat and to involve regularly scheduled vegetation management activities to maintain and enhance mid- to late-successional oak-hickory forests, open woodland habitats, and the trees that are most likely to develop and retain slabs of exfoliating bark. Commercial timber harvest is frequently the most practical and economical method of achieving these goals.

DESIRED CONDITION:

Management of the secondary cave protection area is focused on maintaining and enhancing swarming, roosting, and foraging habitat. The landscapes of these areas feature a structurally diverse older aged forest community with an almost continuous forested canopy. Where ecologically suitable, open pine-oak woodlands with a mature overstory and grassy understory are restored. Oak-hickory forests are managed to favor trees which develop and retain slabs of exfoliating bark including: shagbark hickory, bitternut hickory, white ash, red oak, chestnut oak, white oak, red maple, sugar maple, black gum, sycamore, black locust, and southern yellow pines. Cavity trees, cull trees, standing dead trees, storm and fire damaged live trees, and down logs are common throughout the area. These areas contribute small patches of late-successional to old growth forests to the forestwide matrix. Active roost trees are identified and protected from disturbance. At least six roost trees that retain slabs of exfoliating bark, greater than nine inches in diameter, with at least some daily exposure to sunlight are provided per acre. Indiana bat movement and flight paths are not restricted by dense understory vegetation. Indiana bat prey, such as flying insects, are abundant in terms of both numbers of individuals and diversity of species.

Management activities designed to benefit bat habitat are used more frequently in the secondary cave protection area to maintain and enhance mid- to late-successional oak-hickory forests, open woodland habitats, and the trees that are most likely to develop and retain slabs of exfoliating bark. Additional trees with roosting potential are selected and sunlight conditions surrounding them are improved. Larger diameter snags with exfoliating

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BAT SECONDARY
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bark are promoted and retained. Optimal foraging habitat with 50-70% canopy closure is provided to maximize both flying insect production and Indiana bat foraging success. 60% of these areas are greater than 70 years of age, and 40% of the oak-hickory forest types are greater than 80 years of age. Structural diversity within mixed mesophytic and dry-to-mesic oak forest communities may be enhanced through commercial and non-commercial vegetation management activities.

Four to ten percent of the secondary cave protection area may be in early-successional forest conditions to provide flight corridors and foraging habitat, provided other habitat objectives are also met. Drinking water sources are available in created upland or ridgetop ponds. Ponds typically adjoin mature forest and most have a flight corridor, such as a road or wildlife linear strip, leading into them. Existing wildlife openings are maintained along with occasional creation of new openings. Wildlife species associated with mid- to late-successional deciduous forest habitats and mixed landscapes that are expected to inhabit these areas include: hooded warbler, southern pigmy shrew; whip-poor-will; least weasel, downy woodpecker; eastern gray squirrel; and orchard oriole. This management prescription also provides suitable habitat for ruffed grouse, eastern wild turkey and black bear. These areas provide excellent opportunities for wildlife viewing and hunting. Because the landscapes in which this prescription lie, including private lands, are over 70% forest cover, one could also expect to find area-sensitive mid- to late-successional forest species including: ovenbird, cerulean warbler, black-billed cuckoo, and Swainson's warbler.

Non-native vegetation occurs only as transients and is not self-perpetuating. Biological or species-specific pesticide controls of gypsy moth, hemlock woolly adelgid, autumn olive, and other non-native species are permitted with full consideration of the effects on the Indiana bat, their habitat, and their prey. Timber harvest and pesticide controls may be implemented to aid in the study of effects of non-native pests on the Indiana bat.

Low-impact (dispersed) recreational uses of these prescription areas are compatible with the long-term conservation of the Indiana bat. These include hiking, hunting, backpacking, picnicking, photography, and wildlife study. Existing trails and roads are used for access to specified areas for these activities, although decommissioning of existing roads may occur. Off-road vehicle use is prohibited. Educational materials describing the Indiana bat, its geographical distribution, its habitat, fragility, and conservation efforts are readily available to visitors of the area. The Indiana bat is actively protected against collection and killing, except for specified scientific purposes. Trail and road reconstruction, minor relocation, and new parking facilities are permitted. All activities are conducted with full consideration of effects on Indiana bat populations.

STANDARDS

Forestwide standards for protection and management of the Indiana bat are supplemented in this prescription area by the following standards specific to cave-associated habitats.

When not specifically stated otherwise, these standards refer to both the primary (8E4a) and secondary (8E4b) cave protection areas.

Primary Cave Protection Area

- 8E4-001 Each Indiana bat hibernaculum will have a primary buffer consisting of a radius of no less than one half mile around each hibernaculum, defined by national forest surface ownership and topography.
- 8E4-002 No disturbance that will result in the potential taking of an Indiana bat will occur within this buffer.

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- ▶ Commercial timber harvesting, road construction, use of the insecticide diflubenzuron, creation of early successional habitat, expansion or creation of permanent wildlife openings, and mineral exploration and development are prohibited.
 - ▶ Prescribed burning, tree cutting, road maintenance, and integrated pest management using biological or species-specific controls are evaluated during project level analysis to determine the direct, indirect, and cumulative effects on Indiana bats and the hibernacula.
- 8E4-003 All currently known hibernacula are gated. If additional hibernacula are found, the caves are gated, if necessary, to protect Indiana bats during the critical hibernation period.
- 8E4-004 All caves may be opened for public use during the summer months for recreational use from June 1 to September 1.

Secondary Cave Protection Area

- 8E4-005 A secondary buffer consisting of a radius of approximately 1½ miles around each **primary cave protection area**, defined by easily recognizable features on the ground, will have limited disturbance.
- 8E4-006 Within the **secondary cave protection area**, the following management activities can occur following evaluation to determine the direct, indirect, and cumulative effects on Indiana bats and the hibernacula:
- ▶ Regeneration timber sales;
 - ▶ Thinning;
 - ▶ Road construction or reconstruction;
 - ▶ Prescribed burning;
 - ▶ Trail construction or reconstruction;
 - ▶ Special uses; and
 - ▶ Biological or species-specific pesticide use.

Active Maternity Site Protection

- 8E4-007 If active maternity roost sites are identified on the Forest, they are protected with a 2-mile buffer defined by the maternity roost, alternate roost sites, and adjacent foraging areas. See Forestwide standards.

Active Roost Tree Protection

- 8E4-008 As active roost trees are identified on the Forest, they are protected with a ¼ mile buffer surrounding them. This protective buffer remains until such time they no longer serve as a roost (e.g., loss of exfoliating bark or cavities, blown down, or decay). See Forestwide standards.

Terrestrial and Aquatic Species

- 8E4-009 Management for other plant and animal species within the **primary cave protection areas** is evaluated during project level analysis to determine the direct, indirect, and cumulative effects on Indiana bats and the hibernacula.
- 8E4-010 Opportunities should be sought to include creation of drinking water sources for bats in project plans, where appropriate, in areas where no reliable sources of drinking water are available. Opportunities are considered when the creation is not detrimental to other wetland-dependent species (i.e., damage to natural springs and seeps).

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- 8E4-011 Limit creation of early successional habitat to 10 percent of forested acres in the **secondary cave protection area**. Creation of early successional habitat in the **primary cave protection area** is prohibited.
- 8E4-012 Existing old fields, wildlife openings, and other habitat improvements for fish and wildlife may be present and maintained within both the **primary and secondary cave protection areas**, but no expansion of openings or creation of new permanent openings of this type occurs within the **primary cave protection area**. Native species are emphasized when establishing food plants for wildlife. Some openings provide permanent shrub/sapling habitat as a result of longer maintenance cycles.
- 8E4-013 Structural habitat improvements for fish and other aquatic species are allowed.

Threatened, Endangered and Sensitive Species

- 8E4-014 Management for other known populations of threatened, endangered, sensitive, and locally rare species within the **primary cave protection areas** are evaluated during project level analysis to determine the direct, indirect, and cumulative effects on Indiana bats and the hibernacula.

Rare Communities and Old Growth

- 8E4-015 Maintain rare communities in both the **primary and secondary cave protection areas**.
- 8E4-016 Old growth patches of all sizes and community types are maintained and restored.

Vegetation and Forest Health

- 8E4-017 Allow vegetation management activities within **primary cave protection areas** to:
- ▶ Promote trees that retain slabs of exfoliating bark;
 - ▶ Promote large diameter roost trees with some daily exposure to sunlight;
 - ▶ Thin dense midstories that restrict bat movement;
 - ▶ Improve other threatened, endangered, sensitive, and locally rare species habitat;
 - ▶ Maintain rare communities and species dependent on disturbance;
 - ▶ Reduce fuel buildups;
 - ▶ Restore historic fire regimes, particularly in pine and pine-oak woodlands;
 - ▶ Reduce insect and disease hazard to oak-hickory forest communities;
 - ▶ Control non-native invasive vegetation.
- 8E4-018 Allow vegetation management activities within **secondary cave protection areas** to:
- ▶ Maintain oak-hickory forest communities; and restore pine and pine-oak woodlands;
 - ▶ Promote trees that retain slabs of exfoliating bark;
 - ▶ Promote large diameter roost trees with some daily exposure to sunlight;
 - ▶ Thin dense midstories that restrict bat movement;
 - ▶ Improve other threatened, endangered, sensitive, and locally rare species

- habitat;
- ▶ Maintain rare communities and species dependent on disturbance;
 - ▶ Reduce fuel buildups;
 - ▶ Restore, enhance, or mimic historic fire regimes;
 - ▶ Reduce insect and disease hazard;
 - ▶ Control non-native invasive vegetation;
 - ▶ Salvage dead and dying trees as a result of insects, diseases, or other natural disturbance events;
 - ▶ Provide up to 10% early successional habitat conditions.

8E4-019 Strive for optimum roosting habitat of 16 or more Class 1 and/or Class 2 trees greater than 9 inches d.b.h. per acre, as averaged across the prescription area associated with each hibernaculum. Class 1 trees are those species which are most likely to have exfoliating bark either in life or after death, and which are most likely to retain it for several years after they die. Class 2 trees characteristically have exfoliating bark as well, but are considered to be of slightly lower quality than Class 1 trees. See Table 3-2.

Table 3-2. Class 1 and Class 2 Trees

Class 1 Trees	
<u>Carya cordiformis</u> (bitternut hickory)	
<u>Carya laciniosa</u> (shellbark hickory)	
<u>Carya ovata</u> (shagbark hickory)	
<u>Fraxinus americana</u> (white ash)	
<u>Fraxinus pennsylvanica</u> (green ash)	
<u>Quercus alba</u> (white oak)	
<u>Quercus prinus</u> (chestnut oak)	
<u>Quercus rubra</u> (red oak)	
<u>Quercus stellata</u> (post oak)	
<u>Ulmus rubra</u> (slippery elm)	
Class 2 Trees	
<u>Acer rubrum</u> (red maple)	
<u>Acer saccharum</u> (sugar maple)	
<u>Aesculus octandra</u> (yellow buckeye)	
<u>Betula lenta</u> (sweet birch)	
<u>Carya glabra</u> (pignut hickory)	
<u>Carya</u> spp. (other hickories)	
<u>Fagus grandifolia</u> (American beech)	
<u>Liriodendron tulipifera</u> (tulip poplar)	
<u>Nyssa sylvatica</u> (black gum)	
<u>Platanus occidentalis</u> (sycamore)	
<u>Robinia pseudoacacia</u> (black locust)	
<u>Quercus coccinea</u> (scarlet oak)	
<u>Quercus velutina</u> (black oak)	
<u>Sassafras albidum</u> (sassafras)	
<u>Pinus echinata</u> (shortleaf pine)	
<u>Pinus virginiana</u> (Virginia pine)	
<u>Pinus rigida</u> (pitch pine)	
<u>Pinus pungens</u> (table mountain pine)	

Timber Management

- 8E4-020 **Primary cave protection areas** are unsuitable for timber production. Commercial timber harvest is not allowed.
- 8E4-021 **Secondary cave protection areas** are suitable for timber production. The remainder of the standards under this section refers only to the secondary cave protection area.
- 8E4-022 Clearcutting is prohibited.
- 8E4-023 In order to promote fall foraging and swarming areas, timber activities will leave all shagbark hickory trees and retain a minimum average of 6 snags or cavity trees (greater than or equal to 9 inches d.b.h.) per acre as potential roost sites (except where they pose a safety hazard). For group selection harvest method, all shagbark hickories are maintained (except where they pose a safety hazard) with no provision for minimum number of snags or cavity trees due to the small opening size.
- 8E4-024 Forested communities are maintained using either of two following criteria:
- A minimum of 60% of the acreage of all Forest Types are maintained over 70 years of age; and a minimum of 40% acreage of CISC Forest Types 53 (white oak, red oak, hickory) and 56 (yellow poplar, white oak, red oak) are maintained at an age greater than 80 years old;
- OR
- When the above age criteria cannot be met, forest stands receiving even-aged regeneration harvesting are maintained with a minimum of 20 trees per acre in the

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10-16 inch d.b.h. class and 15 trees per acre in the greater than 16 inch d.b. h. class, of which two trees per acre must be 20 inches d.b.h. or greater.

- 8E4-025 The 0 - 10 age class will not exceed 10% at any time (regardless which of the criteria above are used).
- 8E4-026 Timber marking and harvesting crews will receive training in the identification of potentially valuable roost trees.
- 8E4-027 Timber harvesting operations will be suspended from September 15 until November 15.
- 8E4-028 Manage regeneration harvest areas with the following rotation ages:

Upland hardwoods	120-140
Cove hardwoods	100-120
White pine	80-100
Yellow pine	80-100
Scarlet oak/Black oak	80-100

Non-timber Forest Products

- 8E4-029 Do not issue authorizations for the commercial or personal use of any forest products, including firewood.

Prescribed Fire and Wildland Fire Use

- 8E4-030 Prescribed burning and wildland fire use is allowed to manage vegetation to maintain flight and foraging corridors in upland and riparian areas potentially used by bats in the summer.

Recreation

- 8E4-031 Maintain trails to the minimum standard necessary for protection of the soil, water, vegetation, visual quality, user safety, and long-term maintenance.
- 8E4-032 New trail construction is allowed only within the **secondary cave protection area**.
- 8E4-033 Licensed OHV use is permitted in this prescription area only on existing open roads.

Scenery

- 8E4-034 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	M	M	M	M	M	M

- 8E4-035 Management activities are designed to meet or exceed a high Scenic Integrity Objective in semi-primitive non-motorized areas within this prescription area.

Range

- 8E4-036 In order to maintain open woodland and grassland conditions suitable for fall swarming and roosting, livestock grazing is permitted to continue where it currently exists.

Minerals

- 8E4-037 The **primary cave protection areas** are administratively unavailable for oil and gas and other Federal leasable minerals. Existing leases are not renewed upon expiration. These areas are not available for mineral materials for commercial, personal, or free use purposes. Administrative use of mineral materials is allowed when: a) the materials are used within the primary cave protection area itself; and b) use is necessary to protect Indiana bat habitat.
- 8E4-038 Within the **secondary cave protection areas**, oil and gas are allowed with a timing stipulation to protect Indiana bat habitat from September 15 to November 15. Other Federal minerals are allowed on a case-by-case basis after full consideration of effects on Indiana bat habitat. Permit mineral materials for commercial, personal, free, and administrative use purposes with conditions to protect Indiana bat habitat.
- 8E4-039 The Kelly Cave area is underlain by private mineral rights. Requests for access to a non-Federal interest in lands pursuant to a reserved or outstanding right are recognized, and reasonable access is granted. Encourage such interests to minimize disturbance to Indiana bat habitat when possible.

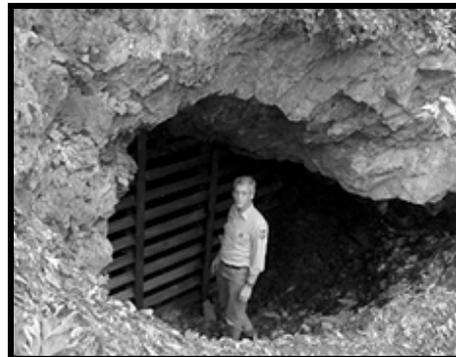
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Roads

- 8E4-040 Within the **primary cave protection area**, do not permit road construction, subject to valid existing rights or leases. Road reconstruction and minor relocation are permitted to benefit the Indiana bat and its habitat.
- 8E4-041 New construction and reconstruction are allowed in the **secondary cave protection area**.
- 8E4-042 Decommission roads when adversely affecting caves, their hydrology, or Indiana bat habitat security.

Lands and Special Uses

- 8E4-043 The Rocky Hollow Cave (Clinch Ranger District) is given a high priority for acquisition (on a willing seller basis) since it is one of the largest known historic hibernacula in Virginia and is situated adjacent to national forest lands.
- 8E4-044 **Primary cave protection areas** are unsuitable for new special uses, except for research and outfitter-guide operations. Phase out existing non-conforming uses.
- 8E4-045 Allow commercial use by outfitters and guides if compatible with preservation of the **primary cave protection areas**. Do not allow contest events such as foot races or horseback endurance events. Require outfitters and guides to use leave-no-trace techniques. Do not allow permanent camps.
- 8E4-046 Within **secondary cave protection areas**, new special use proposals are analyzed on a case-by-case basis to determine the potential effects on the Indiana bat.



**8E6 OLD FIELD
HABITAT
EMPHASIS**

8E6 OLD FIELD HABITAT EMPHASIS

This management prescription is allocated to approximately 1,300 acres (<1%) across the Forest. This prescription area contains both lands suitable and unsuitable for timber production.

EMPHASIS:

The emphasis of this prescription is to provide optimal to suitable habitat for species associated with habitats known as "old fields." This habitat structure is becoming increasingly rare as abandoned farmsteads grow up into mature forests and working agricultural lands are managed more efficiently. The National Forest has an important role to play in providing this form of habitat for the steadily declining suite of species that either requires it, or uses it heavily, including: chestnut-sided, golden-winged, and blue-winged warblers; vesper, chipping, and field sparrows; and northern bobwhite. Management activities are designed to: 1) maintain and restore areas interspersed with grass/forb areas (warm or cool season), shrubby patches, and areas with a scattering of trees of varying species, sizes, and ages; 2) provide a diversity of successional classes in the surrounding forested communities; and 3) control access to protect habitat when necessary.

DESIRED CONDITION:

The landscapes of this prescription are largely pastoral, resembling poorly managed or abandoned farms. These areas are intensively managed for a high degree of structural habitat diversity. Management activities such as burning, mowing, and tree or shrub cutting may be evident to the public. 10% to 100% of these prescription areas are maintained in a permanent old field condition, including approximately one-third in a grass/forb stage with the other two-thirds in a shrub-seedling-sapling stage. Within the old fields themselves, clumps of scattered trees provide cavity nesting habitat and raptor perches. This habitat in the 2100 to 2500 foot elevation range is important for species like the chestnut-sided warbler, golden-winged warbler, and vesper sparrow and may also include open woodlands, regenerating forests, balds, and utility rights-of-way. Many patches of these habitats are over 20 acres in size and clustered on the landscape to provide optimum habitat for dependent species.

Developments throughout the area may include ponds, wetlands, development and maintenance of hedgerows and fields, plantings and seedings of food and cover grasses, herbs, shrubs, and trees, and the creation, restoration, and maintenance of forest openings.

In addition to the species associated with old field habitats listed above, wildlife species associated with early successional forest habitats expected to inhabit this area include raptors like red-shouldered hawks and great horned owls, woodpeckers like the northern flicker and yellow-bellied sapsucker, and small mammals such as the least weasel and eastern cottontail. Game species like ruffed grouse, white-tail deer, and black bear may also be frequent visitors to this area.

Prescribed fire plays an important role in both the restoration and maintenance of the old field habitats as well as maintenance of many of the forested and woodland communities found throughout this area. Even-aged timber management is also an important tool to maintain the desired mix of age classes when forested ecosystems are included within the prescription area. Tree ages vary from area to area, but the focus is on the younger age classes with a minimum of 10% of the area in a dispersed system of permanent and transitory grass/forb openings and a minimum of 20% of the area in the maintained or transitory shrub/seedling stage. The actual percentage of early successional and old field habitats varies across time and space based on historic occurrences of the old fields,

naturally-occurring woodland/savannah/grassland habitats, actual occurrences of natural disturbances, the efficiency of scheduling management activities, and the percent of the prescription area maintained in forested communities.

Within the forested portion of the prescription area, regeneration harvest areas range in size from 10 to 40 acres scattered across the landscape. Harvest systems may include coppice with reserves, two-aged systems, and clearcuts. Thinning and group selection silvicultural systems may be employed to restore open woodland/savannah/grassland habitats or increase the structural diversity in the more mesic forest habitats.

The recreation experience in this area is not considered remote. Access is provided through portions of the area on Forest Service and State roads with a gravel or native surface. Roads may occasionally be paved. Unlicensed off-road vehicles use may occasionally occur on designated trails in the area, but is generally discouraged to provide wildlife habitat security. Challenging opportunities may exist for high-clearance and 4-wheel drive vehicles on open roads.

Forest visitors on foot, horse, or bikes occasionally experience feelings of solitude, challenge, or risk. Comfort, sanitation, and camping facilities are not provided, although primitive camping can be enjoyed throughout the area. This area provides outstanding opportunities for wildlife viewing, photography, and hunting, but facilities are not developed to promote these activities. During most of the year, encounters with other forest visitors can be expected; however, these encounters are more frequent during spring and fall hunting seasons.

The protection of rare communities and species associates is provided, along with the protection measures for population occurrences of threatened, endangered, sensitive, and locally rare species. This provides a high likelihood that species within these associations continue to persist on National Forest System lands.

Sometimes these old fields lie within the foreground the Appalachian National Scenic Trail. Within the foreground of the Appalachian Trail, management practices are designed to achieve the desired condition of this management prescription as well as protect the Appalachian Trail experience, strengthen the role of volunteers and volunteer organizations, provide opportunities for high quality outdoor recreation experiences, and provide for the conservation and enjoyment of the nationally significant scenic, historic, natural and cultural qualities of the land through which the Appalachian Trail passes.

OBJECTIVES

8E6-OBJ1 Maintain a minimum of 10 percent of the prescription area in early successional forest habitat conditions (stand age less than 10 years, openings 10 acres in size and greater).

STANDARDS

Terrestrial and Aquatic Species

8E6-001 Existing old fields, pastoral areas, wildlife openings, and other wildlife habitat improvements are present and maintained or enlarged. Non-invasive non-natives are sometimes used when establishing food plants for wildlife, but native species are preferred. Some openings provide permanent shrub/sapling habitats as a result of longer maintenance cycles.

Vegetation and Forest Health

8E6-002 10-100% of the prescription area consists of a dispersed system of permanent openings and transitory openings created through both natural disturbance events and forest management activities.

**8E6 OLD FIELD
HABITAT
EMPHASIS**

8E6-003 The forest health strategy is to minimize the occurrence of pest problems by managing host-type conditions. Suppression of pests, both non-native and native, is accomplished with all available integrated pest management tools.

Timber Management

- 8E6-004 Portions of these areas are suitable for timber production.
- 8E6-005 Use even-aged silvicultural systems. Regeneration units range from 10 to 40 acres in size.
- 8E6-006 Regeneration harvest areas are primarily clearcuts.
- 8E6-007 Manage regeneration harvest areas with the following rotation ages:

Upland hardwoods	80-100
Cove hardwoods	70-90
White pine	60-80
Yellow pine	60-80
Scarlet oak/Black oak	60-80

8E6-008 Salvage of dead and dying trees is allowed.

Non-timber Forest Products

8E6-009 Commercial and personal use firewood collection is allowed.

Prescribed Fire and Wildland Fire Use

8E6-010 Prescribed fire, wildland fire use, and mechanical treatments are allowed to maintain herbaceous openings and old fields. They are also used in conjunction with site preparation to accomplish silvicultural treatments.

Recreation

- 8E6-011 Wildlife openings and old fields are signed to protect established vegetation from recreational use (e.g. horseback riding, mountain biking, OHV use, and camping) when a reoccurring problem exists.
- 8E6-012 Designated OHV routes and mountain bike use may be restricted if negatively impacting nesting or brood-rearing habitat.

Scenery

8E6-013 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	M	L	L	L	L	L

Appalachian National Scenic Trail

8E6-014 Within the foreground of the Appalachian Trail, all activities will be planned and carried out in cooperation with the appropriate Appalachian Trail management partner(s). See Management Prescription 4A for additional management direction applicable to this corridor.

Roads

8E6-015 Do not increase current open system road density levels calculated across each prescription block.

9A1 SOURCE WATER PROTECTION WATERSHEDS

9A1 SOURCE WATER PROTECTION AREAS

This management prescription is allocated to approximately 19,200 acres (3%) across the Jefferson National Forest. Safe drinking water is essential to protect public health. Managing land to prevent or mitigate source water contamination is often more cost-effective and may better protect human health than treating water after it has been contaminated. Water from national forests are relatively low in contaminants when compared with urban and agricultural land uses. Nevertheless, many common practices on forests can contaminate drinking water sources if proper mitigating measures are not applied.

The Safe Drinking Water Act Amendments of 1996 require every State to perform source water assessments of all public drinking water sources and make the results public by 2003. In Virginia, Source Water Protection areas are delineated 5 miles upstream from the intake for water systems, which serve at least 25 people for 60 days or more per year.

Management of source water protection areas is designed to protect both surface and ground water drinking water sources while also taking a more active role in maintaining the health of the forest communities through vegetation management and providing for the needs of early successional wildlife habitat across the Forest. The Jefferson National Forest serves as the source of several public drinking water supplies in Virginia and is expected to participate with the State and local government in preparing assessments to assure safe drinking water. On the Jefferson National Forest these are:

- ▶ North Fork of the Pound Reservoir serving Pound, Virginia;
- ▶ John W. Flanagan Reservoir serving portions of Dickenson and Buchanan Counties, Virginia;
- ▶ Big Cherry Reservoir serving Big Stone Gap, Virginia;
- ▶ Town of Duffield, Virginia;
- ▶ Town of Bland, Virginia;
- ▶ Gatewood Reservoir serving Pulaski, Virginia;
- ▶ Catawba Sanitorium; and
- ▶ Bedford Lake, serving Bedford, VA.

The source water protection areas for the North Fork of Pound Reservoir and Bedford Lake are allocated to management prescriptions 4K6 and 8E2, respectively. This desired condition and standards for these management prescriptions are consistent with the protection of these source water areas.

EMPHASIS:

The emphasis of this prescription is to provide clean drinking water by maintaining healthy watersheds containing healthy forests.

DESIRED CONDITION:

The surface and ground water flowing from source water protection areas on the Jefferson National Forest meet or exceed all Federal and State requirements for safe drinking water. Streams within source water protection watersheds reflect the physical, chemical, and biological structures that sustain high quality water.

Forest management activities within these areas are focused on protecting drinking water sources while maintaining healthy and vigorous forest that are less susceptible to large

**9A1 SOURCE
WATER
PROTECTION
AREAS**

scale insect and/or disease episodes. Forest vegetation is composed of a variety of species and ages at appropriate stocking levels that reduce the potential impacts of insects and/or diseases to alter water quality either through direct contamination or indirect impacts associated with severe tree mortality and/or potential catastrophic fire. Practices to prevent contamination of drinking water sources are applied and monitored. Riparian corridors are maintained, restored, and enhanced to maximize water quality. Channeled ephemeral stream zones are managed as part of the riparian corridor within these watersheds. Management activities that concentrate pollutant transport to streams or water bodies are mitigated and promptly rehabilitated to reduce impacts.

Significant potential sources of drinking water contamination are identified and the susceptibility of the water supply to contamination from these sources is determined. Existing roads, trails, developed and dispersed recreation sites, and areas of concentrated recreation use are examined and problems mitigated. Old mining, grazing, and agricultural areas are stabilized and rehabilitated where necessary.

Dams to store municipal drinking water are frequently found immediately downstream from these areas on State or private lands. Expansion of these reservoirs to provide additional drinking water needs may be necessary in the future. Water-based recreation and associated facilities may be developed and maintained when these reservoirs are on or adjacent to national forest land and such development is acceptable to the municipality.

These areas are characterized by a predominance of mid- and late-successional forests with multiple canopy layers, which provide a variety of habitat niches and thermal and protective cover for wildlife. Structural diversity within mixed mesophytic and dry-to-mesic oak forest communities may be enhanced through commercial and non-commercial vegetation management activities. Snags used by birds, bats, and small animals are abundant. Up to four percent of forested land may be in early-successional forest conditions created both naturally and purposefully when compatible with the source water protection objectives of these watersheds. Habitat conditions in these areas focus on the protection of drinking water quality while contributing to broader forest goals related to wildlife habitat.

Low intensity commercial timber harvest and prescribed fire use are appropriate to maintain the long-term goals and stewardship objectives of the source water protection watershed. Relatively longer rotation ages and a lower percentage of early successional forest in these areas reflect a "low intensity" approach to vegetation management and the higher priority of protecting drinking water. These activities are designed to maintain and restore a variety of native species and ages at appropriate stocking levels that are resistant to large-scale disturbances that could affect drinking water. These large-scale disturbances include wildland fires, landslides, and insect and disease epidemics (including but not limited to gypsy moth, southern pine beetle, and oak decline). Timber harvesting operations focus on what is retained in the stand, not on wood fiber production. Timber harvest practices are modified to recognize the watershed values of these lands. Stewardship objectives are: to restore watersheds; to maintain or increase water quality; to maintain, restore, and/or enhance the diversity and complexity of native vegetation; to reduce fuel buildups; to provide habitat for a variety of wildlife species; to maintain developed recreation facilities; to salvage timber; or to control non-native invasive vegetation or pests. Timber harvest associated with minerals and rights-of-way is also appropriate.

A broad spectrum of recreation opportunities exist within these watersheds, from rural settings within developed recreation areas to remote non-motorized experiences in the cores of some watersheds. Appropriate restroom and sanitation facilities are provided at all areas where recreationists tend to congregate. Off-road vehicle use is prohibited.

Access is provided through portions of these areas on well-maintained Forest Service and State roads. Public access is coordinated with municipalities in regard to security of water supply.

9A1 SOURCE
WATER PROTEC-
TION AREAS

Existing federal oil and gas leases, as well as reserved and outstanding mineral rights, exist within four of these watersheds. Access and facilities necessary to exercise these leases and rights are engineered to prevent contamination of drinking water sources and managed as closed to public motorized travel.

OBJECTIVES

9A1-OBJ1 Maintain a Forest Service open road density at or below 1.0 miles per square mile (applies to National Forest System roads only).

STANDARDS

Water, Soil, and Air

9A1-001 Channeled ephemeral stream zones are managed as part of the riparian corridor.

Terrestrial and Aquatic Species

9A1-002 Wildlife and fish habitat improvements are allowed to enhance wildlife viewing, hunting, and fishing opportunities with drinking water protections accorded.

9A1-003 Existing old fields, pastoral areas, and wildlife openings may be present and maintained. Expansion of existing openings and/or creation of new openings may occur. Non-invasive non-natives are sometimes used when establishing food plants for wildlife, but native species are preferred. Some openings provide permanent shrub/sapling habitats as a result of longer maintenance cycles.

Rare Communities and Old Growth

9A1-004 Old growth patches of all sizes and community types are maintained and restored.

Vegetation and Forest Health

9A1-005 Non-native, invasive forest insect and disease outbreaks are controlled. Prohibit broadcast application of chemical pesticides. Use only biological control methods, like pheromone flakes, *Bacillus thuringiensis* var. *kurstaki* (Btk).

9A1-006 Eradicate non-native invasive plants when the infestations are isolated. Use approved hand-applied chemicals, when necessary.

9A1-007 Up to 4% of the acres can be in early successional habitat in patches of 2 to 20 acres, clustered on the landscape.

9A1-008 Allow vegetation management activities to:

- ▶ Maintain and restore stand structure and native species composition that is resistant to large scale disturbances that could affect drinking water including wildland fires, landslides, and insect and disease epidemics;
- ▶ Reduce fuel buildups;
- ▶ Reduce insect and disease hazard;
- ▶ Control non-native invasive vegetation;

**9A1 SOURCE
WATER
PROTECTION
AREAS**

- ▶ Maintain, enhance, or restore the diversity and complexity of native vegetation;
- ▶ Provide for public health and safety;
- ▶ Maintain developed recreation facilities, including roads and trails;
- ▶ Enhance both game and non-game wildlife habitat for viewing, photography and hunting;
- ▶ Improve threatened, endangered, sensitive, and locally rare species habitat;
- ▶ Maintain rare communities and species dependent on disturbance.

Timber Management

- 9A1-009 These areas are suitable for timber production.
- 9A1-010 Even and uneven aged management systems are allowed.
- 9A1-011 Reserve trees in even aged harvest areas display good form.
- 9A1-012 Commercial thinning is commonly used to develop park-like stands and larger trees for aesthetic reasons.
- 9A1-013 Manage regeneration harvest areas with the following rotation ages:

Upland hardwoods	120-180
Cove hardwoods	120-180
White pine	80-100
Yellow pine	80-100
Scarlet oak/Black oak	80-100

Prescribed Fire and Wildland Fire Use

- 9A1-014 Wildland fire use is not allowed.
- 9A1-015 Use of prescribed fire is allowed to manage vegetation.

Recreation

- 9A1-016 These areas are unsuitable for designation of new OHV routes or ATV use areas, unless crossing the area is the only feasible alternative or results in less environmental impact.

Scenery

- 9A1-017 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	M	M	M	M	M	M

- 9A1-018 Management activities are designed to meet or exceed a high Scenic Integrity Objective in semi-primitive non-motorized areas within this prescription area.
- 9A1-019 Generally, do not authorize new utility corridors or communication sites within the foreground and middle ground viewsheds of reservoirs.

Range

- 9A1-020 Where grazing is currently allowed and under a permit, control and mitigate to restore, maintain, or enhance the integrity of channels and banks and prevent contamination of drinking water sources. Existing grazing permits may be reauthorized if continued grazing would have no negative impact on drinking water sources.

**9A1 SOURCE
WATER
PROTECTION
AREAS****Roads**

- 9A1-021 Road construction or reconstruction is informed by a watershed-scale road analysis.
- 9A1-022 New roads are engineered to prevent contamination of drinking water sources and managed as closed to public motorized travel.
- 9A1-023 Roads identified as problems are reconstructed, relocated, or decommissioned.
- 9A1-024 Decommission roads when they are no longer needed.

Minerals

- 9A1-025 The source water protection areas are available for federal oil and gas leasing with controlled surface use to protect drinking water. Other Federal minerals may be available on a case-by-case basis after full consideration of effects on source water.
- 9A1-026 Permit mineral materials for commercial, personal, free, and administrative use purposes with conditions to protect drinking water.
- 9A1-027 Some of these areas on the Clinch Ranger District are underlain by private mineral rights or are currently under lease. Roads, wells, and other necessary infrastructure associated with these leases and rights are allowed. Requests for access to a non-Federal interest in lands pursuant to a reserved or outstanding right are recognized, and reasonable access is granted. Such interests are required to follow state laws regarding protection of source water areas.

Lands and Special Uses

- 9A1-028 Special uses may be authorized if consistent and compatible with the protection of a high-quality drinking water source. Prior to reauthorization, review existing uses for compatibility with goals and objectives of this prescription.



9A2 REFERENCE WATERSHEDS

9A2 REFERENCE WATERSHEDS

There are approximately 10,800 acres (1%) of reference watersheds across the Jefferson National Forest. Reference watersheds generally lie beneath other management prescriptions, as shown in Table 3-3.

EMPHASIS

The streams within these small (300-2400 acres) watersheds have existing water quality conditions considered to be the "best attainable" for the ecological sub-section under relatively undisturbed, natural situations.

DESIRED CONDITION

These watersheds are maintained in a relatively undisturbed condition, with a low level of human intervention or impact. These areas retain a natural, forested appearance shaped primarily by natural processes. Uneven-aged forest communities with intermediate to high shade tolerance dominate the area. Landscapes feature a structurally diverse older aged forest community with a continuous forested canopy, with the exception of occasional gaps created by storms, insects, diseases, fire or along roads and trails. Infrequent pastoral and historic/cultural enclaves may also exist. The valued character of these landscapes appears intact with no noticeable deviations. The landscape character ranges from naturally evolving to naturally appearing.

Insects and diseases, primarily gypsy moth, hemlock woolly adelgid, and southern pine beetle, play a major role in shaping future species composition and successional stages across these areas. Non-native vegetation occurs only as transients and are not self-perpetuating. Snags used by birds, bats, and small animals are abundant. Dying and down trees are common, often in natural patches.

These watersheds are classified as unsuitable for timber production and commercial timber harvest is not appropriate. A combination of prescribed fire, wildland fire use, and incidental felling of trees maintain some early successional shade intolerant forest communities, however uneven-aged forests with intermediate to high shade tolerance dominate the area.

Wildlife species associated with area-sensitive mid- to late-successional deciduous forest habitats expected to inhabit this area include ovenbird, cerulean warbler, black-billed cuckoo, and Swainson's warbler. This management prescription also provides optimal to suitable habitat for other mid- to late-successional species including hooded warbler,

Table 3-3. Relationship of Reference Watersheds to Overlying Management Prescriptions

Reference Watershed	Overlying Management Prescription
Cornelius Creek	4K1 North Creek Special Area
Belfast Creek & Snow Creek	1A James River Face Wilderness
Stony Run	4K2 Hoop Hole Special Area
Sulfur Hollow	12B Price Mountain Backcountry
War Spur Branch	1A Mountain Lake Wilderness
Little Wolf Creek	1B Little Wolf Creek Recommended WSA
Lewis Fork	1A Lewis Fork Wilderness
Nutt Run	4K6 North Fork Pound Special Area

southern pigmy shrew, downy woodpecker, eastern gray squirrel, eastern fox squirrel, and sharp-shinned hawk. In addition, the distribution of these areas will provide denning sites for black bear within its range. The protection of rare communities and species associates will be provided, along with protection measures for population occurrences for threatened, endangered, sensitive, and locally rare species.

The majority of these watersheds are surrounded by wilderness or backcountry areas therefore, recreation management is generally designed to provide solitude and remoteness in the most primitive and natural recreation setting possible. However, the Blue Ridge Parkway traverses the ridgeline above the Cornelius Creek watershed and the Cornelius Creek National Recreation Trail meanders back and forth across the creek.

The foreground of the Appalachian National Scenic Trail encompasses a portion of this management prescription. Within the foreground of the Appalachian Trail, management practices are designed to achieve the desired condition of this management prescription as well as protect the Appalachian Trail experience, strengthen the role of volunteers and volunteer organizations, provide opportunities for high quality outdoor recreation experiences, and provide for the conservation and enjoyment of the nationally significant scenic, historic, natural and cultural qualities of the land through which the Appalachian Trail passes.

Trails lie lightly on the land, typically narrow and blending well with the natural surroundings. Visitors are physically challenged as they ford streams and climb over downed trees. Off-road vehicle use is prohibited. Very few facilities are provided, one exception being Appalachian Trail shelters. Outside of designated or recommended wilderness, informational signs, bridges, waterbars, and other such structures are used to protect watershed resources and values.

Due to the nature of these watersheds extending from ridgetop to vally bottom, it may on occasion be necessary for a road to skirt the edge of these watersheds in order to access an adjacent area resulting in less environmental impact. All new and existing roads and trails within these watersheds are engineered, monitored, and maintained to protect water quality at reference conditions. More stringent standards regarding roads, trails, and other management activities apply to reference watersheds located within other management prescription areas.

Existing federal oil and gas leases, as well as reserved and outstanding mineral rights, exist within two of these watersheds. Access and facilities necessary to exercise these leases and rights are engineered to minimize negative impacts to the reference watershed, managed as closed to public motorized travel, and decommissioned when no longer needed for mineral access. Monitoring of stream conditions prior to, during, and following mineral activities aid in future evaluation of effects and design of mitigating measures.

STANDARDS

Water, Soil, and Air

- 9A2-001 Use Minimum Tool Analysis for placing monitoring instrumentation in wilderness.
- 9A2-002 Alteration of stream chemistry through addition of lime or other minerals is prohibited.

Terrestrial and Aquatic Species

- 9A2-003 Existing old fields, wildlife openings, and other habitat improvements for fish and wildlife are not maintained, and succeed to forest, deteriorate over time,

**9A2 REFERENCE
WATERSHEDS**

or are removed. New permanent wildlife openings are not created.

9A2-004 Large woody debris is naturally occurring.

Threatened, Endangered, And Sensitive Species

9A2-005 Within the Peaks of Otter salamander habitat conservation area, activities in this corridor must comply with the Habitat Conservation Agreement. See Management Prescriptions 8E2a. and 8E2b for Peaks of Otter salamander habitat conservation area management direction.

Rare Communities and Old Growth

9A2-006 Rare communities requiring disturbance are maintained through wildland fire use, prescribed fire, timber harvest, or felling and leaving of trees.

9A2-007 Old growth patches of all sizes and community types are maintained and restored.

Vegetation and Forest Health

9A2-008 Forest insect and disease outbreaks are controlled only if necessary to prevent unacceptable damage to resources on adjacent land, prevent a loss to the reference watershed resource due to non-native pests, or protect threatened, endangered, and sensitive species.

9A2-009 Gypsy moth Slow the Spread actions are allowed.

9A2-010 Prescribed fire, use of wildland fire, and felling of trees may be used to:

- ▶ provide for public health and safety;
- ▶ maintain developed recreation facilities, including roads and trails;
- ▶ maintain rare communities and species dependent on disturbance;
- ▶ reduce fuel buildups; or
- ▶ control non-native invasive vegetation.

Timber Management

9A2-011 These lands are unsuitable for timber production. Timber harvest and salvage are not allowed, except along rights-of-way for access roads.

Wildland Fire Suppression

9A2-012 Tractor-plow units or bulldozers are allowed only on fires with an imminent threat to life or private property that cannot be controlled by other means. Evidence of such use is obliterated as soon as practicable.

Prescribed Fire and Wildland Fire Use

9A2-013 Prescribed fire and wildland fire use are allowed to reduce wildland fire potential due to high fuel loadings and to manage vegetation.

9A2-014 Use natural fuel breaks such as streams, roads, rock slides, etc. where possible to minimize fireline construction.

9A4-015 Use the least ground disturbing method of fireline construction, favor blacklines and handtools. Revegetate and water bar firelines as quickly as possible.

Recreation

9A2-016 Existing trails are maintained. Identify soil and water problems and relocate,

reconstruct, or decommission trails when needed.

**9A2 REFERENCE
WATERSHEDS**

9A2-017 Mountain bikes and horses are restricted to designated trails.

9A2-018 Off-road and all-terrain vehicles are not permitted.

Scenery

9A2-019 Management activities are designed to meet the following Scenic Integrity Objectives, which vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	VH	H	H	H	H	H	H

Range

9A2-020 Livestock grazing is not permitted.

Minerals

9A2-021 Reference watersheds are available for federal oil and gas leasing with a no surface occupancy stipulation unless they lie within a prescription withdrawn from mineral leasing or administratively unavailable. Other Federal minerals may be available on a case-by-case basis.

9A2-022 These areas are not available for mineral materials for commercial, personal, administrative, or free use purposes.

9A2-023 Federal oil and gas leases and reserved and outstanding mineral rights exist in the Nutt Run reference watershed. Roads, wells, and other necessary infrastructure associated with these leases and rights are allowed. Requests for access to a non-Federal interest in lands pursuant to a reserved or outstanding right are recognized, and reasonable access is granted. Encourage such interests to minimize surface disturbances when possible.

Roads

9A2-024 Authorize new roads to access valid existing rights and mineral leases, or if entering the reference watershed to access an adjacent watershed results in less environmental impact.

9A2-025 New roads are engineered to mitigate impacts to water and aquatic resources and managed as closed to public motorized travel.

9A2-026 Roads identified as problems are reconstructed, relocated, or decommissioned.

9A2-027 Decommission roads when they are no longer needed.

Lands and Special Uses

9A2-028 These watersheds are unsuitable for new utility rights-of-way and communication sites.

9A2-029 These watersheds are unsuitable for new special uses, except for research and outfitter-guide operations. Phase out existing non-conforming uses.

9A2-030 Allow commercial use by outfitters and guides if compatible with preservation of the reference watershed values. Require outfitters and guides to use leave-no-trace techniques. Do not allow permanent camps. Existing outfitter/guide operations are allowed to continue, but are monitored for impacts to watershed resources.

9A2 REFERENCE WATERSHEDS

9A2-031 Do not allow contest events such as foot races or horseback endurance events.

9A3 WATERSHED RESTORATION AREAS

9A2-032 Limit the size of commercial and organized groups to 10.

9A3 WATERSHED RESTORATION AREAS

This management prescription is allocated to approximately 1,700 acres (<1%) across the Jefferson National Forest. These prescription areas cover a broad spectrum of both large scale catastrophic natural disturbances and past land uses, like historic mining, where the dominate management focus for this planning period is on improving degraded water quality or soil productivity conditions. Consequently, a broad spectrum of restoration activities is needed and different management activities are appropriate. Watershed planning and analysis guides these activities.

Some of these areas are recent land acquisitions. New land acquisitions in the future may (although certainly not always) be allocated to this management prescription.

Table 3-3 Long-Term Management of Restoration Watersheds

Area Name	Current Condition	Long-Term Management Prescription
Davidson Tract	Recent land acquisition. Excessive erosion from roads.	8A1 and 9A1
Staley Creek	On-going restoration of historic mining area.	7E2
George's Branch	On-going restoration of historic mining area.	8C
Sand Pit	Recent land acquisition. Sand pit reclamation.	8C

EMPHASIS:

Management emphasis is on improving degraded water quality or soil productivity conditions. The long-term goal of these watersheds is to restore them to multiple use management. When this goal is achieved, these watersheds will be allocated to a different management prescription as displayed in Table 3.4.

DESIRED CONDITION:

Portions of these watersheds require active and ongoing soil and water rehabilitation work. Long-term these watersheds reflect the physical, chemical, and biological structure that sustain terrestrial, riparian, and aquatic species habitats. Water quality and soil productivity are restored or improving. Streambanks are vegetated and processes of abnormal downcutting have been reversed. Stream chemistry is recovering. Native aquatic species are becoming reestablished. Individual watershed restoration plans completed for each area will specify measurable indicators which trigger when the watershed is considered restored and can be allocated to its targeted management prescription (see Table 3-3).

In order to achieve these desired conditions, short-term measures such as resting a grazing allotment, planting trees, decommissioning roads/trails, or recontouring the land may be necessary. Possible management actions and appropriate mitigation measures are determined through local watershed planning and analysis. Channeled ephemeral stream zones within these watersheds are managed as part of the riparian corridor.

Sources of water and soil degradation are identified and mitigation or restoration plans developed.

9A3 WATERSHED RESTORATION AREAS

Commercial timber harvest may be appropriate in the forested restoration watersheds to restore and maintain native forest communities and wildlife habitats, although the yield of wood products may not be predictable, depending on the restoration needs of the area. Timber harvest practices are modified to recognize the restoration needs of these watersheds.

The forested restoration watersheds are characterized by a predominance of mid- and late-successional forests with multiple canopy layers, which provide a variety of habitat niches and thermal and protective cover for wildlife. Structural diversity within mixed mesophytic and dry-to-mesic oak forest communities is enhanced through commercial and non-commercial vegetation management activities. Snags used by birds, bats, and small animals are abundant. Dying and down trees are common, often in natural patches. Up to four percent of these forests are in early successional habitat conditions including: meadows, old fields, and openings created by flooding, wind damage, wildland fire, insect/disease infestations, or vegetation management activities. These areas frequently provide over 10 percent early successional habitat currently with a long-term goal of early successional habitat objective between 0 and 10 percent (or 100 percent in the case of pastoral areas) depending on the specific area. The specific objective by area will be designated in the individual area restoration plan.

Non-forested restoration watersheds are maintained in their pastoral landscape character unless watershed analysis dictates otherwise. Livestock grazing is frequently used to maintain these pastoral settings. These areas are used to demonstrate how landowners can improve stream and riparian resources within private pastures. These areas provide important old field habitat for a variety of early successional wildlife species.

The landscape character is natural appearing. These areas provide a variety of motorized and non-motorized recreation opportunities and experiences. Access is provided through portions of these areas on well-maintained Forest Service and State roads. Roads identified as problems are reconstructed, relocated, or decommissioned. Roads needed for vegetation management or special use maintenance are engineered to minimize soil and water impacts.

The foreground of the Appalachian National Scenic Trail encompasses a portion of this management prescription. Within the foreground of the Appalachian Trail, management practices are designed to achieve the desired condition of this management prescription as well as protect the Appalachian Trail experience, strengthen the role of volunteers and volunteer organizations, provide opportunities for high quality outdoor recreation experiences, and provide for the conservation and enjoyment of the nationally significant scenic, historic, natural and cultural qualities of the land through which the Appalachian Trail passes.

STANDARDS

Water, Soil, and Air

- 9A3-001 Channeled ephemeral stream zones are managed as part of the riparian corridor.
- 9A3-002 Conduct watershed-specific analysis to determine standards needed to restore watershed conditions for each area. Watershed-specific analysis documentation need not be elaborate, but that necessary to accomplish the objectives.

9A3 WATERSHED RESTORATION AREAS

Vegetation and Forest Health

- 9A3-003 Up to 4% of the acres can be in early successional habitat clustered on the landscape.
- 9A3-004 Wildlife and fish habitat improvements are allowed. Existing wildlife openings, pastoral areas, or old fields may be maintained. Expansion of existing openings and/or creation of new openings may occur. Maintenance methods may include cultivation, grazing, mowing, and burning. Use of native species will be emphasized.

Timber Management

- 9A3-005 Portions of these areas are classified as suitable for timber production. See Timber Suitability Map.
- 9A3-006 All even and uneven-aged silvicultural systems are allowed.
- 9A3-007 Manage regeneration harvest areas with the following rotation ages:

Upland hardwoods	120-140
Cove hardwoods	100-120
White pine	80-100
Yellow pine	80-100
Scarlet oak/Black oak	80-100

Recreation

- 9A3-008 Existing trails are maintained. Identify soil and water problems and relocate, reconstruct, or decommission trails when needed.
- 9A3-009 Do not allow new designated OHV trails.

Appalachian National Scenic Trail

- 9A3-010 Within the foreground of the Appalachian Trail, all activities will be planned and carried out in cooperation with the appropriate Appalachian Trail management partner(s). See Management Prescription 4A for additional management direction applicable to this corridor.

Scenery

- 9A3-011 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	H	H	H	H	H	H

Roads

- 9A3-012 Require roads analysis in conjunction with the watershed-specific analysis.
- 9A3-013 Roads identified as problems are reconstructed, relocated, or decommissioned.
- 9A3-014 New roads are engineered to mitigate impacts to water and aquatic resources and managed as closed to public motorized travel.

9A4 AQUATIC HABITAT AREAS

9A4 AQUATIC HABITAT AREAS

This management prescription is allocated to approximately 6,500 acres (1%) across the Jefferson National Forest. On the Jefferson National Forest, these areas include: Wolf Creek, Lynn Camp Creek, Craig Creek, and Stony Creek (all on the NRV Ranger District) and Potts Creek on the NRV and New Castle Ranger Districts.

EMPHASIS:

Aquatic habitat areas are managed to protect the habitats of specific threatened, endangered, sensitive, or locally rare aquatic species known to exist on national forest lands.

DESIRED CONDITIONS

Forest management activities within these areas are designed to protect habitat for threatened, endangered, and sensitive fish and mussels in streams adjacent to, or immediately downstream from, National Forest System lands. These lands and their associated streams reflect the physical, chemical, and biological structure that sustains exceptional aquatic diversity.

The aquatic species within these areas are secure or meeting recovery objectives. High quality aquatic habitat is capable of supporting sustained populations of aquatic species. Riparian corridors are maintained, restored, and enhanced to maximize high quality aquatic habitat. Channeled ephemeral stream zones are managed as part of the riparian corridor within these areas. These ecosystems are healthy and resilient to change. Management activities that concentrate sediment transport to streams or water bodies are mitigated and promptly rehabilitated to reduce impacts.

Significant potential sources of water quality degradation are identified and the susceptibility of the aquatic species to adverse impacts from these sources is determined. Existing roads, trails, developed and dispersed recreation sites, and areas of concentrated recreation use are examined and problems mitigated. Old mining, grazing, and agricultural areas are stabilized and rehabilitated where necessary. Beaver activity is assessed for adverse impacts to the aquatic community.

Uneven-aged forest communities with intermediate to high shade tolerance dominate the area. Natural processes will eventually result in a large patch old growth forest matrix throughout most of this area interspersed with occasional brushy and herbaceous openings or old fields. Snags used by birds, bats, and small animals are abundant. Dying and down trees are common, often in natural patches. Large woody debris within the riparian corridors meets Forestwide objectives.

These lands are classified as unsuitable for timber production. Commercial timber harvest is not appropriate within this prescription area except for salvage of hazard trees for public safety and/or aesthetics. Prescribed fire, integrated pest management, and felling of trees may be used to manage vegetation. Wildland fires are used to restore and maintain historic fire regimes. Wildlife openings may be maintained when compatible with the objectives to protect the habitat for the aquatic species of concern.

The landscape character is predominantly natural appearing. A broad spectrum of recreation opportunities exist within these areas including roaded natural with rural and pastoral enclaves along Stony Creek, Wolf Creek, Potts Creek and Craig Creek, and semi-primitive non-motorized opportunities within Lynn Camp Creek. Appropriate restroom and sanitation facilities are provided at all areas where recreationists tend to congregate. Portions of the Wolf Creek Picnic Area and Steel Bridge Campground are located in these

9A4 AQUATIC HABITAT AREAS

areas.

The foreground of the Appalachian National Scenic Trail encompasses a portion of this management prescription. Within the foreground of the Appalachian Trail, management practices are designed to achieve the desired condition of this management prescription as well as protect the Appalachian Trail experience, strengthen the role of volunteers and volunteer organizations, provide opportunities for high quality outdoor recreation experiences, and provide for the conservation and enjoyment of the nationally significant scenic, historic, natural and cultural qualities of the land through which the Appalachian Trail passes.

Access is provided through portions of these areas on well-maintained Forest Service and State roads. Roads identified as sources of water quality degradation are reconstructed, relocated, or decommissioned. Since aquatic habitat areas are often linear areas along major access roads, roads may be needed to cross through the area to access adjoining management prescription areas. Roads are engineered to prevent adverse impacts to aquatic species. Mountain bike and horse riders are limited to designated trails. Off-road vehicle use is prohibited to protect water quality and to maintain the non-motorized settings where they exist.

Reserved and outstanding mineral rights exist within one of these areas. Access and facilities necessary to exercise these rights are engineered to prevent adverse impacts to aquatic species and managed as closed to public travel. Federal oil and gas and other mineral leases contain controlled surface use stipulations to protect aquatic species habitat.

STANDARDS

Terrestrial and Aquatic Species

- 9A4-001 Existing old fields, wildlife openings, and other habitat improvements for fish and wildlife are maintained when compatible with the objectives to protect the habitat for the aquatic species of concern. New permanent wildlife openings are not created.
- 9A4-002 Stream habitat improvements are allowed to benefit threatened, endangered, sensitive, and locally rare aquatic species.

Vegetation and Forest Health

- 9A4-003 Non-native, invasive forest insect and disease outbreaks are controlled. Prohibit broadcast application of chemical pesticides. Use only biological control methods, like pheromone flakes, *Bacillus thuringiensis* var. *kurstaki* (Btk) are allowed.
- 9A4-004 When new, isolated infestations of non-native invasive plants are discovered, eradicate using approved hand-applied chemicals or physical means.
- 9A4-005 Allow prescribed fire, integrated pest management, and felling of trees to:
- ▶ Maintain existing wildlife openings and old fields;
 - ▶ Provide for public health and safety;
 - ▶ Maintain developed recreation facilities, including roads and trails;
 - ▶ Maintain rare communities and species dependent on disturbance;
 - ▶ Reduce fuel buildups; or
 - ▶ Control non-native invasive vegetation.

9A4 AQUATIC
HABITAT AREAS

Timber Management

9A4-006 These lands are unsuitable for timber production. Timber harvest is not allowed unless associated with reasonable access to valid existing rights or salvage of hazard trees for public safety and/or aesthetics.

Prescribed Fire and Wildland Fire Use

9A4-007 Prescribed fire and wildland fire use are allowed to reduce fuel buildups, maintain pastoral settings and to restore forest communities that contribute to soil and water restoration and improvement.

9A4-008 Use the least ground disturbing method of fireline construction, favor blacklines and handtools. Revegetate and water bar firelines as quickly as possible.

Recreation

9A4-009 Existing trails are maintained. Identify soil and water problems and relocate, reconstruct, or decommission trails when needed.

9A4-010 These areas are unsuitable for OHV/ATV routes or ATV use areas.

Appalachian National Scenic Trail

9A4-011 Within the foreground of the Appalachian Trail, all activities will be planned and carried out in cooperation with the appropriate Appalachian Trail management partner(s). See Management Prescription 4A for additional management direction applicable to this corridor.

Scenery

9A4-012 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	M	M	M	M	M	M

Range

9A4-013 Grazing is prohibited within these areas.

Minerals

9A4-014 These areas are available for federal oil and gas leasing with a controlled surface use stipulation to protect aquatic habitat. Other Federal minerals may be available on a case-by-case basis after full consideration of effects on the threatened, endangered, sensitive, and locally rare species resources and values.

9A4-015 These areas are not available for mineral materials for commercial or personal purposes. Administrative or free use of mineral materials is allowed when: a) the materials are used within the area itself; and b) use is necessary to protect the threatened, endangered, sensitive, and locally rare species resources and values.

Roads

9A4-016 Motorized vehicles are restricted to designated roads and parking areas.

9A4-017 Road construction or reconstruction are informed by a watershed-scale or site-specific road analysis.

**9A4 AQUATIC
HABITAT AREAS**

9A4-018 Road construction and reconstruction are allowed to provide visitor access and manage resources provided negative effects to threatened, endangered, sensitive, or locally rare aquatic species can be improved or mitigated.

**9F RARE
COMMUNITIES**

9A4-019 Roads identified as problems are reconstructed, relocated, or decommissioned.

Lands and Special Uses

9A4-020 These river and stream segments are unsuitable for new dams unless negative effects to threatened, endangered, sensitive, or locally rare aquatic species can be mitigated.

General

9A4-021 Any human caused disturbances or modifications that may concentrate runoff, erode the soil, or transport sediment to the channel or water body are rehabilitated or mitigated to reduce or eliminate impacts. Channel stability of streams is protected during management activities.

9A4-022 Management activities expose no more than 10 percent mineral soil within the project area.

9F RARE COMMUNITIES

This management prescription is allocated to approximately 7,400 acres (1%) across the Jefferson National Forest. All known rare community sites, and lands surrounding them appropriate for protection of the rare community, are allocated to this prescription. As new rare community sites are found, they will be added to this prescription through the Forest Plan amendment process. Descriptions of the Rare Communities found on the Jefferson National Forest can be found in Appendix E.

EMPHASIS:

Rare communities are assemblages of plants and animals that occupy a small portion of the landscape, but contribute significantly to plant and animal diversity. Rare communities, wherever they occur on the Forest, are managed under this prescription to ensure their contribution to meeting goals for community diversity, endangered and threatened species recovery and providing habitat for sensitive and locally rare species. These lands serve as core areas for conservation of the most significant elements of biological diversity identified to date on the Forest. The emphasis of designation and management of these areas are designed: (1) to perpetuate forest communities that are rare at the scale of their ecological Section or Subsection unit; and (2) to perpetuate or increase existing individual plant or animal species that are of national, regional, or state significance as identified on threatened, endangered, sensitive, and locally rare species lists.

DESIRED CONDITION:

Rare communities exhibit the composition, structure, and function necessary to support vigorous populations of species characteristic of the community, including relevant federally listed threatened and endangered species, and other species at risk. Ecological disturbances are at the frequency and intensity needed to maintain these conditions; however, in some cases environmental factors have changed to the extent that natural processes are prevented or hindered from maintaining the community. In these cases, management activities used to restore or maintain desired conditions, such as prescribed burning, timber harvest, or integrated pest management may be evident. Wildland fires are used to restore and maintain historic fire regimes whenever possible. Beyond restoration and maintenance activities, human-caused alteration of rare communities is

not evident. Signs and barriers may limit recreational access where necessary to protect community integrity. Interpretive signs or other information may be available where it is likely to promote public knowledge of rare communities and improve community protection.

These natural evolving or natural appearing areas are characterized by a variety of forested and non-forested communities generally being affected more by the forces of nature than by humans. Late successional to old growth forest communities currently exist in some of these areas and additional acres develop in future years.

All areas are protected from human-caused detrimental habitat change, the taking of threatened or endangered species, and the collection of living plants or animals unless such collections are for the purpose of achieving the stated management goals. Recreational access is limited to existing roads and trails generally outside the perimeter of the area. New trail sections to link existing trails or for education and interpretation is considered on a case-by-case basis. Recreation opportunities are limited to interpretation, bird watching, wildlife viewing, nature photography, and hiking, biking, and horseback riding.

Some rare communities are found within the foreground the Appalachian National Scenic Trail. Within the foreground of the Appalachian Trail, management practices are designed to achieve the desired condition of this management prescription as well as protect the Appalachian Trail experience, strengthen the role of volunteers and volunteer organizations, provide opportunities for high quality outdoor recreation experiences, and provide for the conservation and enjoyment of the nationally significant scenic, historic, natural and cultural qualities of the land through which the Appalachian Trail passes.

These sites can be nominated for placement on States' registries of natural areas. These voluntary agreements recognize the protection and management of natural areas that support rare species and significant natural communities.

OBJECTIVES

- 9F-OBJ1 Based on periodic monitoring of known rare community sites, identify management activities needed to maintain or restore characteristic structure, composition, and function of these communities, and implement an annual program of work designed to meet these needs.

STANDARDS

General

- 9F-001 Protect rare communities from any detrimental effects caused by management actions. Site-specific analysis of proposed management actions will identify any management measures needed in addition to Forest Plan standards.
- 9F-002 Management activities occur within rare communities only where maintenance or restoration of rare community composition, structure, or function is expected (except for beaver ponds—see below).

Terrestrial and Aquatic Species

- 9F-003 Existing openings or old fields are only maintained or created if they are compatible with the rare community.
- 9F-004 Control measures such as exclosures or trapping may be used where animal populations are adversely affecting rare communities.

**9F RARE
COMMUNITIES**

9F-005 Beaver ponds and associated wetlands are managed in association with threatened, endangered, sensitive, and locally rare species. They are protected as rare communities when they support significant populations of these species or otherwise on a case-by-case basis. Other beaver populations and dams may be managed to: prevent adverse effects to public safety; roads, trails, and other facilities; private land resources; and other rare communities. Where protection of beaver ponds and associated wetlands are in conflict with other resource needs, decisions consider the beavers' role in natural processes and are based on the relative rarity of the communities and associated species involved, with the rarest elements receiving priority.

Rare Communities and Old Growth

9F-006 When needed to maintain community composition, structure, or function, control encroaching vegetation in bogs and seasonal ponds.

9F-007 Prohibit new plow lines for containing prescribed burns in or near bogs and seasonal ponds to avoid disrupting hydrology. Use existing roads, firelines, or streams to contain the burn where possible. Where necessary, construct new firelines by less intensive methods such as wetline and cutting back flashy fuels. Handline may be used when it is the only option available.

Vegetation and Forest Health

9F-008 Control non-native invasive species (plants, animals, insects, and diseases) where they are causing negative effects to rare communities. Do not introduce non-native species in or near rare communities, unless it is a natural enemy of a non-native pest.

9F-009 Allow native insects and diseases to play their natural ecological role.

9F-010 Removal of dead and down logs or other woody debris in rare communities is prohibited. Where needed to ensure public or employee safety, snags may be felled, but will be retained within the community as downed wood.

9F-011 Carolina hemlock will not be cut or treated during vegetation management activities in order to maintain future restoration opportunities. Exceptions may be made where needed to provide for public and employee safety, protection of private resources, insect and disease control, or research.

9F-012 Allow vegetation management activities to:

- ▶ Maintain and improve threatened, endangered, sensitive, and locally rare species habitat;
- ▶ Maintain rare communities and species dependent on disturbance;
- ▶ Reduce insect and disease hazard;
- ▶ Control non-native invasive vegetation;
- ▶ Maintain, enhance, or restore the diversity and complexity of native vegetation;
- ▶ Reduce fuel buildups.

Timber Management

9F-013 These lands are unsuitable for timber production. Timber harvest is appropriate within disturbance dependent rare communities when it is not possible to use natural processes or prescribed fire.

Non-timber Forest Products

9F-014 Do not issue authorizations for collection of flora from rare communities, except for approved scientific purposes. Hunting and fishing are allowed.

Wildland Fire Suppression

9F-015 Firelines constructed with heavy equipment are avoided whenever possible during wildland fire suppression.

Prescribed Fire and Wildland Fire Use

9F-016 Do not construct fire lines with heavy mechanized equipment (e.g. bulldozers and tractors) in rare communities when preparing for prescribed fire, unless necessary to benefit or enhance the rare community (e.g. table mountain pine community).

9F-017 Basic mesic forests are excluded from prescribed burning blocks where this can be accomplished without large increases in fireline construction. When necessary to include mesic deciduous forests within burning blocks, direct firing will not be done within these communities unless necessary to secure control lines. In these cases, only low intensity fires are allowed.

Recreation

9F-018 Where recreational uses are negatively affecting rare communities, modify recreation sites or trails to reduce or eliminate negative effects. New recreational developments are designed to avoid negative effects to rare communities.

9F-019 These areas are unsuitable for designation of new OHV routes or ATV use areas, unless crossing the area is the only feasible alternative or results in less environmental impact.

Appalachian National Scenic Trail

9F-020 Within the foreground of the Appalachian Trail, all activities will be planned and carried out in cooperation with the appropriate Appalachian Trail management partner(s). See Management Prescription 4A for additional management direction applicable to this corridor.

Scenery

9F-021 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	H	M	M	M	M	M

9F-022 A short-term SIO of enhancement or rehabilitation may be used where there is a need.

Range

9F-023 Livestock grazing is allowed within balds, high elevation grasslands, and other rare communities where this type of vegetation management is beneficial to maintain these areas.

9F RARE COMMUNITIES

Minerals

9F-024 Rare communities are available for federal oil and gas leasing with a no surface occupancy stipulation to protect threatened, endangered, sensitive, and locally rare species. Other Federal minerals may be available on a case-by-case basis after full consideration of effects on the rare community.

9G1 MAINTENANCE AND RESTORATION OF BOTTOMLAND HARDWOODS

9F-025 These areas are not available for mineral materials for commercial or personal purposes. Administrative or free use of mineral materials is allowed when: a) the materials are used within the rare community itself; and b) use is necessary to protect the rare community and threatened, endangered, sensitive, and locally rare species habitats.

9F-026 Federal oil and gas leases and reserved and outstanding mineral rights exist in some of these areas. Roads, wells, and other necessary infrastructure associated with these leases and rights are allowed. Requests for access to a non-Federal interest in lands pursuant to a reserved or outstanding right are recognized, and reasonable access is granted. Encourage such interests to minimize disturbance to threatened, endangered, sensitive, and locally rare species habitat.

Roads

9F-027 Only permit road construction to access valid existing rights and mineral leases, or if entering the rare community to access an adjacent area results in less environmental impact. Road reconstruction and minor relocation are permitted after full consideration of effects on the rare community and associated species.

9F-028 New roads are engineered to minimize impacts to the rare community and managed as closed to public motorized travel.

Lands and Special Uses

9F-029 These areas are unsuitable for designation of new utility corridors, utility rights-of-way, or communication sites. Existing uses may continue after evaluation of the impacts to the rare community.

9F-030 Allow commercial use by outfitters and guides if compatible with preservation of the rare community values. Do not allow contest events such as foot races or horseback endurance events. Require outfitters and guides to use leave-no-trace techniques. Do not allow permanent camps.

9F-031 Limit the size of commercial and organized groups to 10.

9G1 MAINTENANCE AND RESTORATION OF BOTTOMLAND HARDWOODS

This management prescription is allocated to approximately 100 acres (< 1%) across the Jefferson National Forest. These forests occur mostly in the floodplains of major rivers and their tributaries within broad floodplains. Consequently, these community types rarely occur on the Jefferson National Forest. We have identified them due to their importance for several neotropical migrant bird species whose declining populations make them of particular concern.

EMPHASIS:

Emphasis is primarily on maintenance of bottomland hardwood forest communities with limited opportunities for restoration. Restoration activities are focused on reforestation of non-forest areas.

DESIRED CONDITION:

The Eastern Riverfront Hardwood community is extremely limited in acreage on the Jefferson National Forest. Included forest types are: river birch, sycamore, cottonwood, and black walnut. The river birch/sycamore type is typically a narrow 'stringer' on each bank of large streams. Cottonwood and black walnut types have usually been planted on alluvial flats, which were in a non-forest land use when they were first acquired. The primary natural disturbance agents are periodic flooding, bank sloughing, and beaver feeding—streams are too large to be dammed by beaver. Included species are typically intolerant. The reproductive strategy for these intolerant species is typically seedling establishment on flood-deposited sediments or on water-scoured banks.

The River Floodplain Hardwood Forest Community includes bottomland hardwood, yellow pine, yellow poplar, black ash, American elm, red maple, swamp chestnut oak, cherrybark oak, nuttall oak, willow oak, sugarberry, American elm, green ash, laurel oak, willow oak, overcup oak, and water hickory. Each of these types is associated with riparian areas. Tolerance of species ranges widely, from very tolerant for red maple to very intolerant for yellow pine but the majority of species are intolerant. This community is adapted to flooding as a natural disturbance.

The bird communities of the bottomland hardwood forests are quite diverse (Smith and others 1996) and include numerous species in both the spring and summer breeding season and in the winter nonbreeding season (Hamel 1992). Many of these birds are Neotropical migratory species whose declining populations make them of particular concern at the present time (Hunter and others 1993, Smith and others 1996).

Management of these areas is focused on maintaining current forests and preventing further conversion to other uses, as well as reclamation of some previously converted land to forest.

A knowledge of stand development and replacement patterns on bottomland hardwood sites is important for long-term success of restoration projects. In addition to the kinds of overstory disturbances and plant-mediated responses as occur in uplands, bottomland sites change over time by deposition of sediment and meandering of the river. When flooding frequency diminishes, sedimentation ceases, soils begin to mature, and the site begins to function more like a terrace than a ridge. Species adapted to better drained conditions, such as cherrybark oak, pin oak, and swamp chestnut oak, will appear.

Eastern cottonwood is a temporary, pioneer species that establishes itself wherever moist, bare soil is available, such as on newly made sandbars or flood-scoured ridges and flats on the first bottoms. It may occur together with willow and eventually become dominant unless frequent and extended flooding favors the willow. As soils build up and willow and cottonwood drop out, succession passes to sycamore, American elm, and green ash. Understory species consist of greenbrier, trumpet creeper, stinging nettle, and grape. Herbs may or may not be present, depending on how dense the overstory is and how long floodwaters cover the ground during the growing season.

Swamp chestnut and cherrybark oak occur on the highest terraces on more mature sandy loam soils. These sites are seldom covered with standing water. Painted buckeye, flowering dogwood, and eastern redbud frequently occur in the understory.

Since these sites occur along large creeks and rivers, access is provided on state roads. Recreation opportunities are limited due to the wet conditions and dense understory. Opportunities exist for bird watching, wildlife viewing, and nature photography. The landscape character of these areas is natural appearing.

9G1 MAINTENANCE AND RESTORATION OF BOTTOMLAND HARDWOODS

**9G1
MAINTENANCE
AND
RESTORATION OF
BOTTOMLAND
HARDWOODS**

STANDARDS

Standards for Management Prescription 11 – Riparian Corridors apply to this management prescription.

**9H
MANAGEMENT,
MAINTENANCE
AND
RESTORATION OF
FOREST
COMMUNITIES**

9H MANAGEMENT, MAINTENANCE AND RESTORATION OF FOREST COMMUNITIES

This management prescription is allocated to approximately 24,700 acres (3%) across the Jefferson National Forest. Forest community types in the Jefferson National Forest are influenced by bedrock geology, soils, slope position, aspect, and disturbance history. Consequently, many various community types are represented within a single watershed or landtype association. Allocation of these prescription areas focused on areas where southern yellow pine communities and the drier oak and oak-pine mixed communities predominate.

EMPHASIS:

The emphasis of this management prescription is to restore and maintain the potential natural vegetation predicted as most likely to occur in each landtype and landtype phase based on ecological potential.

DESIRED CONDITIONS

Lucy Braun broadly described the natural vegetation of the Jefferson National Forest in 1950 as part of the Oak-Chestnut Forest. Because of its climatic variability and diversity of soils weathered from different substrates, western Virginia supports an array of oak, oak-hickory, oak-pine, pine, and mixed mesophytic forest communities. This mix of plant associations are maintained, enhanced, and restored within this prescription area. The gradual reduction in distribution and/or abundance of southern yellow pine communities, particularly Table Mountain and pitch pine is reversed, reclaiming those portions of the landscape where they have been replaced by oaks and white pine. At the scale of an entire watershed, variations in forest communities along an ecological gradient (different aspects, slope positions, and soil types) are evident to the untrained observer. Reproductive potential, growing space, light, nutrients, water, and recent disturbances present at any point in the life of each forest community results in the natural sustainability of those communities that occur in any given ecological unit.

The landscape character of this area retains a natural, forested appearance interspersed with some forest communities greater than 100 years of age and herbaceous openings, providing a diversity of scenery and wildlife habitat. Plant associations within this prescription have a range of 4 to 10% of its area per decade in the early successional class. Structural diversity within mixed mesophytic and dry-to-mesic oak forest communities is enhanced through commercial and non-commercial vegetation management activities. This prescription area is a mix of lands suitable and unsuitable for timber production. Portions of the area, including riparian areas, areas of low productivity like shale barrens, and lands where commercial timber harvest is uneconomical, are managed by natural processes and prescribed fire and will contribute to the older aged forest component across the prescription area. The resulting landscape structure of this allocation provides a forest matrix appropriate for linking large- and medium-sized old-growth patches across the landscape. Cavity trees, cull trees, standing dead trees, and down logs are common throughout the area as a result of natural mortality.

Prescribed fire plays an important role in the maintenance of many of the forested communities found throughout this management prescription. Prescribed fire is frequently used to encourage oak sprouting and reduce competition from more shade

Table 3-4. Reference Communities Identified by the Virginia Department of Natural Heritage

VA-DNH Forest Vegetation Types	Reference Community
Rich Cove and Slope forests	Cliff Mountain, Clinch RD Glenwood –Pedlar RD, widespread in coves
Acidic Cove forests	Catawba Mountain, New Castle RD Salt Pond Mountain, New River Valley RD
Eastern Hemlock forests	Little Wolf Creek, New River Valley RD Sunset Fields, Glenwood –Pedlar RD
Dry-Mesic Calcareous forests	Blowing Springs, Warm Springs RD
Basic Oak-Hickory forests	James River Face Wilderness, Glenwood RD
Acidic Oak-Hickory forests	Sprouts Run, Glenwood RD
Montane Oak-Hickory forests	Potts Mountain (upper north slope), New River Valley RD Apple Orchard Falls, Glenwood RD
Mixed Oak/Heath and Chestnut Oak forests	Pine Mountain, Glenwood –Pedlar RD Peters Mountain North, James River RD
Eastern White Pine- Hardwood Forests	Upper south and west slope of Chimney Rocks, Warm Springs RD
Pine-Oak/Heath Woodlands	Bald Mountain, New Castle RD
Montane Acidic Woodlands	Suber Barrens, New Castle RD
Piedmont/Mountain Basic Woodlands	Narrows Natural Area, Nature Conservancy Wildcat Mountain, Glenwood RD
Montane Dry Calcareous Forests and Woodlands	Stone Mountain, Clinch RD
Southern Appalachian Northern Hardwood Forests	Iron Mountain (high elevation north slopes, Mount Rogers NRA)
Central Appalachian Northern Hardwood Forest	Potts Mountain (high elevation north slopes), Blacksburg RD
Southern Appalachian High Elevation Rich Cove Forest	Thunder Hill (north slopes), Glenwood RD
High Elevation Acidic Cove Forest	High Knob, Clinch RD
Northern Red Oak Forest	War Spur Branch, New River Valley RD Bedford County, Glenwood RD

9H
MANAGEMENT,
MAINTENANCE
AND
RESTORATION OF
FOREST
COMMUNITIES

tolerant species, to restore and maintain threatened and endangered species habitats, and to ensure the continued presence of fire-dependent southern yellow pine ecosystems. Prescribed fire and commercial timber harvest are employed to maintain the diversity of age, structure, and species composition of forest communities across the landscape.

Wildlife species associated with both early-successional and mid- to late-successional deciduous forest habitats, as well as an abundance of game species are expected to inhabit this area. The protection and management of old growth forests, other rare communities, and threatened, endangered, sensitive, and locally rare species are also an important feature within these areas.

The spatial distribution of forest communities across the landscape is based on current and historic vegetation records, potential natural vegetation, and the experience of local forest managers. Species composition and structure of forest communities are based on identified reference communities and the preliminary classification and description of vegetation types done by the Virginia Department of Conservation and Recreation Division of Natural Heritage (VA-DNH). The broad forest vegetation types represented and their specific desired conditions are listed in Table 3-4.

**9H
MANAGEMENT,
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The recreation experience in this area is not considered remote, although open road densities are fairly low (less than 1.25 miles per 1000 acres). Access is provided through portions of the area on Forest Service and State roads with a gravel or native surface. Roads may occasionally be paved. Unlicensed off-road vehicles use may occasionally occur on designated trails in the area, but is generally discouraged to provide wildlife habitat security. Challenging opportunities may exist for high-clearance and 4-wheel drive vehicles on open roads.

The foreground of the Appalachian National Scenic Trail encompasses a portion of this management prescription. Within the foreground of the Appalachian Trail, management practices are designed to achieve the desired condition of this management prescription as well as protect the Appalachian Trail experience, strengthen the role of volunteers and volunteer organizations, provide opportunities for high quality outdoor recreation experiences, and provide for the conservation and enjoyment of the nationally significant scenic, historic, natural and cultural qualities of the land through which the Appalachian Trail passes.

Forest visitors on foot, horse, or bikes may experience some solitude in portions of this prescription area where roads are managed as closed, but feelings of challenge and risk are not expected. Comfort, sanitation, and camping facilities are not provided, although primitive camping can be enjoyed throughout the area. During most of the year, occasional encounters with other forest visitors can be expected, however these encounters are more frequent during spring and fall hunting seasons. This area provides excellent opportunities for wildlife viewing and hunting.

STANDARDS

Terrestrial and Aquatic Species

- 9H-001 Limit creation of early-successional forest habitat to ten percent of forested acres (based on the contiguous prescription area).
- 9H-002 Existing old fields, pastoral areas, wildlife openings, and other wildlife habitat improvements may be present and maintained. Expansion of existing openings and/or creation of new openings may occur. Non-invasive non-natives are sometimes used when establishing food plants for wildlife, but native species are preferred. Some openings provide permanent shrub/sapling habitats as a result of longer maintenance cycles.
- 9H-003 Favor the retention of large (>20" d.b.h.) standing snags and den trees when implementing silvicultural treatments.

Vegetation and Forest Health

- 9H-004 4-10 percent of the prescription area consists of a dispersed system of transitory openings created through vegetation management activities.
- 9H-005 Maintain and restore southern yellow pine forest communities through artificial or natural regeneration.
- 9H-006 Regenerate pine-hardwood forest types artificially or naturally to mixed pine-hardwood stands of native species to retain the pine component.
- 9H-007 Proactively manage species composition and tree vigor in stands at a level that reduces susceptibility to damage from insect and disease infestations and other forest health problems like oak decline. Suppress native and non-native insects and diseases using an integrated pest management approach.

Timber Management

- 9H-008 These areas are suitable for timber production.
- 9H-009 Regeneration harvest areas are primarily coppice with reserves with 15- 25 square feet of basal area per acre left to ensure adequate sunlight for oak regeneration.
- 9H-010 Thinning and group selection silvicultural systems are designed to result in forest structure and composition consistent with late-successional deciduous forest conditions over the long-term. Clearcut harvest systems occur when necessary to achieve specific forest regeneration objectives.
- 9H-011 Regeneration units range from 2 to 40 acres in size.
- 9H-012 Regeneration harvest areas may occupy up to 16 percent of a project analysis area in order to provide 4-10 percent of an individual contiguous management prescription area in early successional forest habitat conditions and to cluster these conditions on the landscape.
- 9H-013 Manage regeneration harvest areas with the following rotation ages:

Upland hardwoods	120-140
Cove hardwoods	100-120
White pine	80-100
Yellow pine	80-100
Scarlet oak/Black oak	80-100

Non-timber Forest Products

- 9H-014 Commercial and personal use firewood collection is allowed.

Prescribed Fire and Wildland Fire Use

- 9H-015 Management-ignited prescribed fire, wildland fire use, and mechanical treatments are allowed to: perform site preparation; reduce wildland fire potential due to high fuel loadings; manage vegetation; maintain or enhance wildlife habitats; and to benefit fire dependent communities.

Appalachian National Scenic Trail

- 9H-016 Within the foreground of the Appalachian Trail, all activities will be planned and carried out in cooperation with the appropriate Appalachian Trail management partner(s). See Management Prescription 4A for additional management direction applicable to this corridor.

Scenery

- 9H-017 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	M	M	M	M	M	M

**10B HIGH
QUALITY FOREST
PRODUCTS****10B HIGH QUALITY FOREST PRODUCTS**

This management prescription is allocated to approximately 16,200 acres (2%) across the Jefferson National Forest.

EMPHASIS:

This prescription is applied to lands capable of producing high quality valuable sawtimber. Timber stand improvement and regeneration harvest methods are applied that best provide for the growth and harvest of high quality, valuable sawtimber that is most in demand in the marketplace. Other forest products such as pulpwood, fuelwood, and low value sawtimber are provided as result of timber stand improvement to cultivate high quality, valuable sawtimber. Opportunities are also provided for other high value forest products.

DESIRED FUTURE CONDITION

These lands are managed for a balanced age-class distribution of forest stands containing native tree species capable of sustained, high value timber production. These forested communities contain a wide diversity of tree species that receive periodic vegetation management through commercial timber sales to initiate regeneration processes and/or maintain tree growth and vigor. Management activities are spatially distributed and timed to minimize adverse impacts on wildlife, soil, water, recreation, and scenery in a cost-efficient manner.

The landscape character is natural appearing with associations of deciduous and mixed hardwood-pine upland forest communities and rich cove hardwood communities. Other pine and conifer forest community types make up a smaller proportion of the area. The mix of forest community types depends upon the landtype associations in which this prescription is applied. Large stemmed trees interspersed with canopy gaps and 10 - 40 acre transitional openings provide moderate to high scenic diversity. Where uneven-aged cutting methods are used, forest communities of large, contiguous blocks of gently sloping, roaded land are best suited to cost efficient management. There will be a gradual shift from shade-intolerant to shade-tolerant tree species within these forest communities.

A mix of forest successional stages characterizes these areas, with an emphasis on early-successional forests. 10 to 16 percent of forested land may be in early-successional forest conditions, mid- and late-successional forests are common. Early-successional forest patches created by management actions may occur in patches of 2 to 40 acres, and may be clustered or scattered across the landscape. Some characteristics of older aged forest communities and habitat conditions may be provided towards the end of rotation in both even- and uneven-aged forest stands; however, these communities are available for harvest in order to provide the high quality, valuable forest products emphasized in this prescription. Roads through the area are designed to facilitate timber removal and protect water quality.

Wildlife species associated with early successional forest habitats and mixed landscapes expected to inhabit these areas include: eastern towhee, white-eyed vireo, least weasel, whip-poor-will, and orchard oriole. This management prescription also provides suitable habitat for ruffed grouse, eastern wild turkey and black bear. These areas provide excellent opportunities for wildlife viewing and hunting.

Forest product commodity outputs contribute to the social and economic well being of the people living in the area and help maintain a way of life long associated with those living within the area. Timber harvesting is apparent and uses sale layout and design to

accommodate visual considerations through innovative harvesting techniques and sale layout.

Growth capability of suitable land is used at a high level, but well within the biological capabilities for sustained yield production. A balanced age-class distribution is achieved over time with most of the area having stands within the prescribed rotation lengths. Native forest insects and diseases are kept within acceptable levels using Integrated Pest Management techniques. Impacts to vegetation from non-native forest pests, like gypsy moth, are minimized through judicious use of chemical and biological controls, silvicultural treatments, and timely salvage of damaged trees.

Roads through the area provide recreation opportunities for both OHV and sedan travel. These areas provide a variety of motorized and non-motorized recreation opportunities including hunting, fishing, hiking, bicycling, berry picking, dispersed camping, driving for pleasure, and viewing scenery and wildlife. Management activities may be visually evident in portions of these areas.

STANDARDS

Terrestrial and Aquatic Species

- 10B-001 Limit creation of early-successional forest habitat to sixteen percent of forested acres (based on the contiguous prescription area).
- 10B-002 Existing old fields, pastoral areas, wildlife openings, and other wildlife habitat improvements may be present and maintained. New transitory wildlife habitat openings are created as a result of timber management activities. Non-invasive non-natives are sometimes used when establishing food plants for wildlife, but native species are preferred. Some openings provide permanent shrub/sapling habitats as a result of longer maintenance cycles.
- 10B-003 Favor the retention of large (>20" d.b.h.) standing snags and den trees when implementing silvicultural treatments.

Rare Communities and Old Growth

- 10B-004 Old growth patches are not provided for in this prescription area.

Vegetation and Forest Health

- 10B-005 10-16 percent of the prescription area consists of a dispersed system of transitory openings created through forest management activities.
- 10B-006 Proactively manage species composition and tree vigor in stands at a level that reduces susceptibility to damage from insect and disease infestations and other forest health problems like oak decline. Suppress native and non-native insects and diseases using an integrated pest management approach.
- 10B-007 Assure salvage is rapid, complete, and emphasizes marketing timber before its value decreases.

Timber Management

- 10B-008 These areas are suitable for timber production.
- 10B-009 Regeneration harvest areas are primarily coppice with reserves with 15 – 25 basal area per acre left to ensure adequate sunlight for oak regeneration.
- 10B-010 Thinning is frequently used to increase volume production and tree vigor and manage species composition. Uneven-aged management, using group selection, may be employed to reduce impacts to scenery.

10B HIGH QUALITY FOREST PRODUCTS

- 10B-011 Regeneration units range from 5 to 40 acres in size.
- 10B-012 Regeneration harvest areas may occupy up to 20 percent of a project analysis area in order to provide 10-16 percent of an individual contiguous management prescription area in early successional forest habitat conditions.

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- 10B-013 Manage regeneration harvest areas with the following rotation ages:

Upland hardwoods	80-100
Cove hardwoods	70-90
White pine	60-80
Yellow pine	60-80
Scarlet oak/Black oak	60-80

Non-timber Forest Products

- 10B-014 Commercial and personal use firewood collection is allowed.

Wildland Fire Suppression

- 10B-015 A full range of suppression strategies are employed to protect timber resources.

Prescribed Fire and Wildland Fire Use

- 10B-016 Prescribed fire and/or mechanical fuel treatments are used for site preparation, to promote natural regeneration, reduce wildland fire potential due to high fuel loadings, manage vegetation, maintain or enhance wildlife habitats, and to benefit fire dependent communities.

Scenery

- 10B-017 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	M	L	L	L	L	L

11 RIPARIAN CORRIDORS – STREAMS, LAKES, WETLANDS, AND FLOODPLAINS

⁷ Ilhardt, B.L., E.S. Verry, and B.J. Palik. 2000. Defining riparian areas. Pages 23-42 in E.S. Verry, J. W Hornbeck, and C. A. Dolloff (editors) *Riparian management in forests in the continental eastern United States*. Lewis Publishers, New York. 402pp.

This management prescription is allocated to approximately 73,600 acres (10%) across the Jefferson National Forest.

Riparian Areas are functionally defined as areas with three-dimensional ecotones of interaction that include both terrestrial and aquatic ecosystems. They extend down into the groundwater, up above the canopy, outward across the floodplain, up the near-slopes that drain into the water, laterally into the terrestrial ecosystem, and along the watercourse at a variable width⁷. (For an operational definition of a riparian area based on soils, vegetation, and hydrologic characteristics see Appendix "C".) A *riparian corridor* is a management prescription area designed to include much of the Riparian Area. Within the riparian corridor management prescription area, management practices are specified to maintain riparian functions and values. As a management prescription area, this includes corridors along all defined perennial and intermittent stream channels that show signs of scour, and around natural

ponds, lakeshores, wetlands, springs, and seeps. (See Appendix "C" for a graphical representation of a riparian corridor.)

EMPHASIS:

Riparian corridors are managed to retain, restore, and/or enhance the inherent ecological processes and functions of the associated aquatic, riparian, and upland components within the corridor. Primarily, natural processes (floods, erosion, seasonal fluctuations, etc.) modify most of the areas within the riparian corridor. However, management activities may be used to provide terrestrial or aquatic habitat improvement, favor recovery of native vegetation, control insect infestation and disease, comply with legal requirements (e.g. Endangered Species Act, Clean Water Act), provide for public safety, and to meet other riparian functions and values. Silvicultural treatments including timber and vegetation removal may occur to restore and/or enhance riparian resources such as water, wildlife, and natural communities.

DESIRED CONDITION

Riparian corridors reflect the physical structure, biological components, and ecological processes that sustain aquatic, riparian, and associated upland functions and values. The preferred management for riparian corridors is one that maintains, or moves toward, the restoration of processes that regulate the *environmental and ecological components of riparian areas*. However, due to the high value that these areas have for many uses, evidence of human activity (developed recreation areas, roads and trails, dams and reservoirs, and pastoral areas) may be present.

Riparian corridors are managed to emphasize the maintenance, restoration, and enhancement of habitat for species that depend on riparian resources for at least a part of their life-cycle. Management may also occur to maintain, restore, or enhance habitat for other species that benefit from riparian resources as long as the needs of species that depend on riparian resources for at least a part of their life-cycle are met.

The soils of riparian corridors have an organic layer (including litter, duff, and/or humus) of sufficient depth and composition to maintain the natural infiltration capacity, moisture regime, and productivity of the soil (recognizing that floods may periodically sweep some areas within the floodplain of soil and vegetation). Exposed mineral soil and soil compaction from human activity may be present but are dispersed and do not impair the productivity and fertility of the soil. Any human-caused disturbances or modifications that cause environmental degradation through concentrated runoff, soil erosion, or sediment transport to the channel or water body are promptly rehabilitated or mitigated to reduce or eliminate impacts.

Trees within the corridors are managed to provide sufficient amounts and sizes of woody debris to maintain habitat complexity and diversity for aquatic and riparian wildlife species. Recruitment of woody debris typically occurs naturally; however, woody debris may be purposefully introduced to enhance aquatic and terrestrial habitat. Both in-stream and terrestrial woody debris are regarded as essential and generally left undisturbed.

The riparian corridor functions as a travel-way for aquatic and terrestrial organisms. The corridor serves as a connector of habitats and populations allowing gene flow to occur, thus keeping populations genetically viable. Stream structures -- such as bridges, culverts, and aquatic habitat improvement structures -- may be evident in some streams and water bodies. With the exception of some dams, most structures do not decrease in-stream connectivity.

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Suitable habitat is provided in the riparian corridor for riparian flora and fauna; especially threatened, endangered, sensitive (TES) and locally rare species. Vegetation (dead and alive) reflects the potential natural diversity of plant communities with appropriate horizontal and vertical structure needed to provide the shade, food, shelter, and microclimate characteristics for aquatic and terrestrial species. Rehabilitation of past and future impacts (both natural and human-caused) may be necessary to protect resource values and facilitate recovery of riparian structure and functions.

Vegetative communities within the riparian corridor are diverse and productive, providing for a rich variety of organisms and habitat types. The vegetative community within the riparian corridor is predominately forested; however, some native non-forested communities such as wet meadows and grass or shrub dominated plant communities may occur. The desired vegetative condition of non-forested communities is determined by site-specific analysis.

The forest contains multiple canopy layers, which provide diverse habitat structure, and thermal and protective cover for wildlife. Snags used by birds, bats, and other small animals are abundant. Dying and down trees are common, often in naturally occurring patches. Wet meadows, non-forest communities, and open forest canopies, created by flooding, wind damage, wildland fire, insect infestations, disease, restoration, and vegetation management may be seen.

Vegetation management activities are stratified into two sections of the riparian corridor. The core of the corridor is the area within 100 feet each side of perennial streams, lakes, ponds and wetlands and the area within 50 feet each side of intermittent streams. Within the core of the riparian corridor, vegetation management activities, including prescribed fire, may take place to maintain, restore, and/or enhance the diversity and complexity of native vegetation, rehabilitate both natural and human-caused disturbances, and provide habitat improvements for aquatic and riparian-associated wildlife species (including migratory birds), provide for visitor safety, or to accommodate appropriate recreational uses. Silvicultural treatments, including timber and vegetation removal, may occur within the riparian corridor, but the corridor will be classified as not suitable for timber production.

When slopes exceed ten percent the riparian corridor is extended beyond the core area. Within this extended portion of the corridor vegetation management activities may take place to meet the objectives of the adjacent management prescription. However, these activities will be constrained by the standards in this riparian corridor prescription. Silvicultural treatments, including timber and vegetation removal, may occur within the extended section of the corridor. This extended section of the corridor can be classified as suitable for timber production if the adjacent management prescription is suitable. Prescribed fire can be used within the corridor to create or maintain the composition and vitality of fire-dependent vegetative communities.

The landscape character is natural evolving or natural appearing, but occasional enclaves of a rural landscape character may occur with pastoral settings and recreation developments (such as a swim beach at a campground). Livestock grazing may occur, but it is managed to minimize impacts on stream banks, water quality, and other riparian resources.

Both dispersed and developed recreation opportunities may be present within these corridors. Although recreational areas and facilities may create long-term impacts on riparian corridors, allowances are made in this prescription since a majority of recreation within the national forests occurs in or near water bodies. Hiking, dispersed camping, hunting, and fishing are typical activities available within the corridor. Visitors may encounter developed camping areas, boat launches and fishing piers. Current recreation areas and facilities are managed to minimize impacts on stream banks, shorelines, and

water quality. New recreation facilities will be developed in accordance with Executive Orders 11988 and 11990 to minimize impacts on the riparian resource. Environmental education and interpretation about the aquatic component and riparian corridor may be provided to increase awareness of the value of riparian resources.

DESIRED CONDITIONS FOR AQUATIC SYSTEMS WITHIN THE RIPARIAN CORRIDOR

Streams are in dynamic equilibrium; that is, stream systems normally function within natural ranges of flow, sediment movement, temperature, and other variables. The geomorphic condition of some channels may reflect the process of long-term adjustment from historic watershed disturbances (e.g., past intensive farming or logging practices). The combination of geomorphic and hydrologic processes creates a diverse physical environment, which, in turn, fosters biological diversity. The physical integrity of aquatic systems, stream banks and substrate, including shorelines and other components of habitat is intact and stable. Where channel shape is modified (e.g., road crossings), the modification preserves channel stability and function.

The range of in-stream flows is maintained to support channel function, aquatic biota and wildlife habitat, floodplain function, and aesthetic values. Water uses and other modifications of flow regimes are evaluated in accordance with the national Forest Service in-stream flow strategy and site-specific analysis.

Water quality remains within a range that ensures survival, growth, reproduction, and migration of aquatic and riparian wildlife species; and contributes to the biological, physical, and chemical integrity of aquatic ecosystems. Water quality meets or exceeds State and Federal standards. Water quality (e.g.: water temperature, sediment level, dissolved oxygen, and pH) will be improved where necessary to benefit aquatic communities.

Floodplains properly function as detention/retention storage areas for floodwaters, sources of organic matter to the water column, and habitat for aquatic and riparian species. Modification of the floodplain is infrequent but may be undertaken to protect human life and property or to meet other appropriate management goals (e.g., restoration). There may be evidence of some roads, trails, and recreation developments. Some wetland habitats may show signs of restoration.

The biological integrity of aquatic communities is maintained, restored, or enhanced. Aquatic species distributions are maintained or are expanded into previously occupied habitat. The amount, distribution, and characteristics of aquatic habitats for all life stages are present to maintain populations of indigenous and desired nonnative species. Habitat conditions contribute to the recovery of species under the Endangered Species Act. Species composition, distribution, and relative abundance of organisms in managed habitats is comparable to reference streams of the same region. Some streams and lakes, however, may be stocked with non-native fish by the respective State natural resource agency.

STANDARDS

Standards refer to the entire riparian corridor (core and extended area) unless specified otherwise.

General

11-001 Any human caused disturbances or modifications that may concentrate runoff, erode the soil, or transport sediment to the channel or water body are

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rehabilitated or mitigated to reduce or eliminate impacts. Channel stability of streams is protected during management activities.

- 11-002 Motorized vehicles are restricted to designated crossings. Motorized vehicles may be allowed on a case-by-case basis, after site-specific analysis, outside of designated crossings where it can be shown to benefit riparian resources.
- 11-003 Management activities expose no more than 10 percent mineral soil within the project area riparian corridor.

Aquatic Habitats within Streams and Rivers

- 11-004 The removal of large woody debris (pieces greater than 4 feet long and 4 inches in diameter on the small end) is allowed if it poses a risk to water quality, degrades habitat for aquatic or riparian wildlife species, impedes water recreation (e.g. rafting) or when it poses a threat to private property or Forest Service infrastructure (e.g. bridges). The need for removal must be determined on a case-by-case basis.
- 11-005 The addition of large woody debris for stream habitat diversity will generally favor stream reaches with an average bank full width of less than 30 feet in Rosgen B channel types. Log length will generally be 50% greater than bank full width. In stream reaches where there may be potential debris impacts to downstream private or public infrastructure (e.g., bridges) or to water-based recreation (e.g. rafting), the active recruitment (placement) of large woody debris will be limited in quantity and scope.
- 11-006 Stocking of new nonnative species and stocking of previously unstocked areas is not allowed where it will negatively impact native aquatic species or communities. Prior to any stocking, national forests coordinate with the appropriate State and Federal agencies to ensure that populations and habitats of native species are maintained.
- 11-007 Restoration of chemical integrity of aquatic ecosystems (from impacts such as acid deposition and acid mine drainage) is allowed on a site-specific basis for protection or for restoration of aquatic species.
- 11-008 Instances where the flow regime is modified for other purposes (such as reservoir releases for recreational sports or hydroelectric demand), evaluate instream flow needs in accordance with the national strategy for water rights and instream flows.
- 11-009 In-stream habitat improvements, and stream-connected disturbance will be designed and implemented after consideration of the life-cycle requirements of federally listed aquatic species.

Terrestrial Species

- 11-010 Existing permanent wildlife openings may be maintained within the riparian corridor. However, permanent wildlife openings identified as causing environmental degradation through concentrated runoff, soil erosion, sediment transport to the channel or water body are mitigated or closed and restored. New permanent wildlife openings within the riparian corridor are permitted where needed to provide habitat for riparian species, or threatened, endangered, sensitive, and locally rare species.
- 11-011 Use no-till mechanical cultivation methods for maintenance of wildlife openings.
- 11-012 Up to 2 percent early successional forest habitat may be created when the riparian corridor falls within the Ruffed Grouse/Woodcock Habitat Management Prescription 8E1 (measured within riparian corridor across geographically contiguous prescription block).

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- 11-013 Management actions that may negatively alter the hydrologic conditions of wetland rare communities are prohibited. Such actions may include livestock grazing and construction of roads, plowed or bladed firelines, and impoundments in or near these communities. Exceptions may be made for actions designed to control undesirable impacts caused by beavers, or where needed to control fires to provide for public and employee safety and to protect adjacent private land resources. Beaver impoundments may be removed if they are negatively affecting federally listed species.
- 11-014 Introducing fish into wetland rare communities is prohibited.
- 11-015 Canebrake restoration efforts may occur on sites currently supporting cane (*Arundinaria gigantea* or *A. tecta*) and may occur on sites known to historically support cane. Management actions will be designed to increase the vigor, density, and area of existing patches of cane. Actions used to restore canebrakes will include prescribed burning on a 7 to 10 year return cycle, control of competing vegetation, and overstory reduction or removal.

Vegetation and Forest Health

- 11-016 Insect and disease control measures will be determined on the basis of risk to adjacent resources, long-term sustainability, and appropriate needs for the function and condition of the riparian area. When cutting is an appropriate control tactic, cut and leave is the preferred method for control and suppression of insects and disease in the core of the riparian corridor. Cut and remove is permitted in the extended area beyond the core. Other control measures may be used when a condition poses a risk to stream stability, degrades water quality, adversely affects habitat for aquatic or riparian species, poses a threat to public safety or facilities, or when "cut and leave" is not effective.
- 11-017 Tree removals from the core of the riparian corridor may only take place if needed to:
- ▶ Enhance the recovery of the diversity and complexity of vegetation native to the site;
 - ▶ Rehabilitate both natural and human-caused disturbances;
 - ▶ Provide habitat improvements for aquatic or riparian species, or threatened, endangered, sensitive, and locally rare species;
 - ▶ Reduce fuel buildup;
 - ▶ Provide for public safety;
 - ▶ For approved facility construction/renovation; or
 - ▶ As allowed in standards 11-012 and 11-022.
- 11-018 Tree removals from the extended area beyond the core of the riparian corridor may take place to meet the objectives of the adjacent management prescription.

Timber Management

- 11-019 Lands in the core of the riparian corridor are classified as not suitable for timber production. Vegetation management may be accomplished with commercial timber sales when that is the most practical or economically efficient method.
- 11-020 Lands in the extended area beyond the core of the riparian corridor are

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suitable for timber harvest when the adjacent management prescription is also suitable.

- 11-021 When timber harvest occurs in the extended area beyond the core of the riparian corridor for purposes of meeting the objectives of the adjacent management prescription, then vehicles will be excluded from the extended area.
- 11-022 Corridors for cable logging in areas adjacent to the riparian corridor may cross the riparian corridor. Crossing will be at as near a right angle as possible, with full suspension preferred.
- 11-023 In cable logging, when full suspension is not possible, partial suspension is allowed with armoring when yarding logs across perennial and intermittent streams.

Non-timber Forest Products

- 11-024 Do not permit commercial collection of botanical products in the riparian corridor if it would adversely affect the functions and values of the riparian area.
- 11-025 Permitted firewood cutting within the riparian corridor must take into consideration large woody debris needs. Ranger Districts will identify areas where firewood cutting is not permitted due to large woody debris concerns.

Wildland Fire Management

- 11-026 Fire retardants should not be applied directly over open water.
- 11-027 Use existing fire barriers; such as streams, roads, trails, etc. for control lines where possible.
- 11-028 When necessary to construct fire lines with heavy equipment (e.g., bulldozers) that cross riparian areas and streams, construct turnouts that will allow runoff to be dispersed and infiltrated into the soil before reaching the stream, and then cross stream at right angle. These fire lines should be stabilized and/or revegetated as soon as possible after the fire is controlled.

Prescribed Fire and Wildland Fire Use

- 11-029 Plan prescribed fires to use existing barriers, e.g., streams, lakes, wetlands, roads, and trails, to reduce the need for fire line construction.
- 11-030 Construction of firelines with heavy mechanized equipment (e.g. bulldozers) in riparian corridors is prohibited. Hand lines, wet lines, or black lines are used to create firelines within the riparian corridor to minimize soil disturbance. Water diversions are used to keep sediment out of streams. Firelines are not constructed in stream channels, but streams may be used as firelines.

Recreation

- 11-031 New trails will normally be located outside of the riparian corridor except at designated crossings or where the trail location requires some encroachment (e.g. to accommodate stream crossings in steep terrain, etc.), or to manage access to water bodies.
- 11-032 New motorized trails are prohibited within the riparian corridor except at designated crossings or where the trail location requires some encroachment; for example, to accommodate steep terrain. When existing OHV trails within riparian corridor are causing unacceptable resource damage, appropriate mitigation measures (which may include OHV trail

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- closure) will be implemented.
- 11-033 Motorized and non-motorized trail reconstruction and relocation within the riparian corridor are allowed to reduce impacts to riparian and aquatic resources.
 - 11-034 Proposed recreation facilities will be located outside of the riparian corridor or 100-year floodplain (Executive Order 11988) and wetlands (Executive Order 11990) unless no practicable alternative location exists. Where future facilities cannot be located out of the 100-year floodplain, structural mitigation and best management practices will be used. Trails, campsites, and other recreational developments are located, constructed, and maintained to minimize impacts to channel banks and to prevent other resource damage. When existing facilities are causing unacceptable resource damage, appropriate mitigation measures will be implemented. Soils are stabilized on eroding trails and recreational sites.
 - 11-035 Where a riparian area is identified as vulnerable to environmental impacts, camping trailers and vehicles should not be allowed within 50 feet of perennial streams or lakes, except at designated areas.
 - 11-036 Overnight tethering or corralling of horses or other livestock is not allowed within 50 feet of stream courses or lakes. Existing corral sites are maintained to limit impacts to water quality and riparian corridors until alternative sites are developed.

Scenery

- 11-037 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	H	M	M	M	M	M

Range

- 11-038 Where grazing is currently allowed and under a permit, grazing is controlled and mitigated to restore, maintain or enhance the integrity of stream channels and banks and prevent unacceptable resource damage. Reauthorizing grazing in riparian corridors within these existing allotments may occur if continued grazing would have no unacceptable resource damage on riparian resources. New grazing allotments or new permits for inactive allotments will exclude the riparian corridor.
- 11-039 Where authorized by permit, livestock watering areas, stream crossings, and stream banks are managed to maintain bank stability. Designated entry points, crossings, and watering points are located, sized, and maintained to minimize the impact to riparian vegetation and function.
- 11-040 Feeding troughs and salt and mineral blocks are not allowed inside the riparian corridor unless the entire pasture is within the riparian corridor, in which case they are located as far away from streams as possible. Watering troughs are appropriately located to protect the streams.

Minerals

- 11-041 The riparian corridors are available for federal oil and gas leasing with a controlled surface use stipulation to protect riparian resources and values. Other Federal minerals may be available on a case-by-case basis after full consideration of effects on the riparian corridor.

**11 RIPARIAN
CORRIDORS**

- 11-042 Federal oil and gas leases exist within these corridors on the Clinch Ranger District. Roads, wells, and other necessary infrastructure associated with these leases are allowed. Existing lease stipulations are used to protect the riparian corridor.
- 11-043 These corridors are not available for commercial or personal mineral materials. Administrative and free use of mineral materials is allowed only to restore riparian areas and aquatic habitat, control erosion and sedimentation, and repair flood damage.
- 11-044 Private mineral rights exist in some riparian corridors across the Jefferson National Forest. Roads, wells, and other necessary infrastructure associated with these rights are allowed. Requests for access to a non-Federal interest in lands pursuant to a reserved or outstanding right are recognized, and reasonable access is granted. Encourage such interests to minimize disturbance of riparian resources and values.

Roads

- 11-045 New roads are located outside the riparian corridor except at designated crossings or where the road location requires some encroachment; for example to accommodate steep terrain, or are allowed within the corridor if the road will cause more resource damage if it were located outside the corridor. When existing roads within riparian corridor are causing unacceptable resource damage, appropriate mitigation measures will be implemented.
- 11-046 In-stream use of heavy equipment or other in-stream disturbance activities is limited to the amount of time necessary for completion of the project. Construction of crossings is completed on all streams as soon as possible after work has started on the crossing. Permanent and temporary roads on either side of stream crossings within the riparian corridor are graveled.
- 11-047 When constructing roads, each road segment will be stabilized prior to starting another segment. Stream crossings will be stabilized before road construction proceeds beyond the crossing.
- 11-048 To minimize the length of streamside disturbance, ensure that approach sections are aligned with the stream channel at as near a right angle as possible. Locate riparian corridor crossings to minimize the amount of fill material needed and minimize channel impacts. Generally, permanent structures or temporary bridges on permanent abutments are provided when developing new crossings on perennial streams. Permanent structures, temporary bridges or hardened fords are used when crossing intermittent streams.
- 11-049 Design structures (culverts, bridges, etc.) to accommodate storm flows expected to occur while the structures will be in place. Use scientifically accepted methods for calculating expected storm flows.
- 11-050 Design crossings so stream flow does not pond above the structure during normal flows in order to reduce sediment deposition immediately above the crossing and maintain the channel's ability to safely pass high flows.
- 11-051 Design the crossing so that stream flow will not be diverted along the road if the structure fails, plugs with debris, or is over-topped.
- 11-052 If culverts are removed, stream banks and channels must be restored to a natural size and shape. All disturbed soil must be stabilized.
- 11-053 Fords associated with new road construction are not used in perennial streams without site-specific environmental analysis. Establish fords only

under conditions that will not cause significant streambank erosion. Erosion stone or larger rock is used to increase load bearing strength at the water/land interface.

11 RIPARIAN CORRIDORS

- 11-054 All new stream crossings will be constructed to allow the passage of aquatic organisms, and maintain natural flow regime. Exceptions may be allowed in order to prevent the upstream migration of undesired species.

12A REMOTE BACKCOUNTRY RECREATION-FEW OPEN ROADS

Lands and Special Uses

- 11-055 Riparian corridors are generally unsuitable for new human created stream channel impoundments, but may be considered on a project specific basis, consistent with appropriate Federal and state regulations. Impoundments will generally be designed to allow complete draining, with minimum flows, cold-water releases, and re-aeration in trout waters and other specific waters when needed. Downstream catch basins and fish ladders are constructed for fish salvage/passage, if necessary. New human-constructed impoundments are unsuitable on streams where federally listed species will be negatively affected.

Other Ground Disturbing Activities

- 11-056 For activities not already covered in the above standards, ground disturbing activities are allowed within the corridor if the activity will cause more resource damage if it were located outside the corridor, on a case-by-case basis following site-specific analysis. Any activity allowed under these conditions is minimized and effective sediment trapping structures such as silt fences, brush barriers, hay bale barriers, gravelling, etc., are required. Sediment control, prior to, or simultaneous with, the ground disturbing activities, is provided.

12A REMOTE BACKCOUNTRY RECREATION--FEW OPEN ROADS

This management prescription is allocated to approximately 9,700 acres (1%) across the Jefferson National Forest.

EMPHASIS:

These lands are managed to provide users with a degree of solitude and a semi-primitive recreation experience in large remote areas that still allow the use of limited public motorized access⁸ on existing open roads and/or motorized trails. Areas are 2,500 acres or greater in size, unless the area is adjacent to a wilderness or other backcountry recreation area.

⁸ Limited public motorized use is defined as maintaining less than ½ mile of existing open roads or existing motorized trails, per 1,000 acres within this prescription area. No new public motorized uses are allowed.

DESIRED CONDITION:

These areas provide large tracts of backcountry recreation opportunities with a semi-primitive emphasis that allow limited motorized access. Visitors will be able to choose from a variety of predominately non-motorized recreation opportunities such as hiking, backpacking, mountain bike riding, horseback riding, rock climbing, nature study, hunting, and fishing. Limited motorized activities are also available including dispersed camping, pleasure driving, and in some areas all-terrain vehicle or motorcycle trails if this use existed prior to this Forest Plan Record of Decision. New motorized uses are not provided. Closed roads are available for both non-motorized uses as well as administrative access.

These areas are managed and monitored to absorb low to moderate levels of recreation use while protecting air, soil, vegetation, and water resource conditions. Limitations of use

**12A REMOTE
BACKCOUNTRY
RECREATION-FEW
OPEN ROADS**

will occur if the dispersed activity results in, or is expected to result in, negative affects to the local ecosystem. Human activities may be evident in some places. Visitors will occasionally see other people, especially near the few open roads in these areas. Outdoor skills will be important for visitors in the more remote portions of these areas.

The landscapes of these areas are primarily shaped by natural processes (floods, storms, insects, diseases, and fires). Landscapes feature a structurally diverse mid- to late-successional forest community with a continuous forested canopy, with occasional pastoral and historic/cultural enclaves. The valued character of the natural appearing and cultural landscapes either appears intact or is actually intact. There are no noticeable deviations.

Prescribed fire plays an important role in the maintenance of forested communities found throughout this management prescription. Prescribed fire is used to restore and maintain threatened and endangered species habitats, to ensure the continued presence of fire-dependent southern yellow pine ecosystems, to maintain fire-associated forested communities, and to reduce fuel buildups. Naturally ignited wildland fires are used when possible.

These lands are classified as unsuitable for timber production and timber harvesting rarely occurs unless necessary to contain an insect or disease outbreak or slow the spread of a non-native invasive pest. Salvage of dead and damaged trees may occasionally occur to reduce fuel buildups or to manage outbreaks of insect and diseases; however, it is limited to areas with existing road access since permanent road construction is prohibited. A combination of prescribed fire and wildlife habitat improvements maintain some early successional shade intolerant forest communities, however uneven-aged forest communities with intermediate to high shade tolerance dominate the area. Aside from these occasional management activities, natural processes will eventually result in a large patch old growth forest matrix throughout most of this area interspersed with naturally occurring brushy and herbaceous openings. Cavity trees, cull trees, standing dead trees, and down logs will be common throughout the area as a result of natural mortality. Occasional large openings of early successional habitat may be created through natural disturbance.

Wildlife openings, linear strips, and old field habitats are maintained in a grass/forb or shrub/scrub condition. Wildlife species associated with area-sensitive mid- to late-successional deciduous forest habitats expected to inhabit this area include ovenbird, cerulean warbler, black-billed cuckoo, and Swainson's warbler. This management prescription also provides optimal to suitable habitat for other mid- to late-successional species including hooded warbler, southern pigmy shrew, downy woodpecker, eastern gray squirrel, eastern fox squirrel, and sharp-shinned hawk. In addition, the distribution of these areas will provide denning sites and remote habitat conditions for black bear within its range. The protection of rare communities and species associates will be provided, along with protection measures for population occurrences for threatened, endangered, sensitive, and locally rare species.

Road density is less than ½ mile per 1,000 acres, with closed roads serving as fire breaks, wildlife linear strips, hiking trails, and administrative access. New permanent roads are not constructed, although temporary roads and road reconstruction may be necessary to accomplish stewardship objectives.

STANDARDS

Terrestrial and Aquatic Species

12A-001 Existing old fields, pastoral areas, wildlife openings, and other wildlife habitat improvements may be present and maintained. Expansion of existing

openings and/or creation of new openings may occur. Non-invasive non-natives are sometimes used when establishing food plants for wildlife, but native species are preferred. Some openings provide permanent shrub/sapling habitats as a result of longer maintenance cycles.

**12A REMOTE
BACKCOUNTRY
RECREATION-FEW
OPEN ROADS**

Threatened, Endangered, And Sensitive Species

- 12A-002 Within the Peaks of Otter salamander habitat conservation area, activities in this corridor must comply with the Habitat Conservation Agreement. See Management Prescription 8E2 for Peaks of Otter salamander habitat conservation area management direction.

Rare Communities and Old Growth

- 12A-003 Rare communities requiring disturbance are maintained through wildland fire use, prescribed fire, timber harvest, or felling and leaving of trees.
- 12A-004 Old growth patches of all sizes and community types are maintained and restored.

Vegetation and Forest Health

- 12A-005 Allow control of insect and disease outbreaks when necessary to protect the scenic and recreational values, to reduce hazards to visitors, or for safety and legal reasons. When actions are needed, first consider biological controls, secondly hand-control methods, and finally pesticides. Utilize the least ecologically disruptive technique that will accomplish control of the pest.
- 12A-006 Slow-the-Spread, suppression, and eradication of non-native pests is allowed.
- 12A-007 Tree cutting may occur incidental to other management activities such as trail construction, maintenance, removal of hazard trees, fireline construction, etc. Mechanical equipment such as chainsaws is permitted.
- 12A-008 Mechanical fuel treatments such as piling or limbing are permitted.
- 12A-009 Salvage harvesting operations are allowed to reduce fuels and the risks and hazards of damage from insects and diseases, using existing and temporary roads.

Timber Management

- 12A-010 These lands are unsuitable for timber production. Except associated with insect/disease outbreaks, hazardous fuels reduction, salvage or valid existing rights and leases, timber harvest is not allowed.

Non-timber Forest Products

- 12A-011 Personal use firewood cutting is permitted within 100 feet of roads.

Prescribed Fire and Wildland Fire Use

- 12A-012 Prescribed fire, wildland fire use, mechanical fuels treatments, and associated hand tool or mechanized fire line construction are allowed to reduce wildland fire potential due to high fuel loadings, improve and maintain wildlife habitat, or to benefit fire-dependent and associated species such as table mountain pine and oak forests.

Recreation

- 12A-013 These backcountry recreation areas are managed for the Semi-Primitive Non-Motorized (SPNM) or Semi-Primitive Motorized (SPM) Recreation Opportunities although actual ROS classes range from Semi-Primitive Non-Motorized (SPNM), to Semi-Primitive 2 (SP2). See ROS Map.

**12A REMOTE
BACKCOUNTRY
RECREATION-FEW
OPEN ROADS**

- 12A-014 New non-motorized trails are allowed.
- 12A-015 Existing motorized roads and trails are monitored for impacts to soil and water quality and problems mitigated. Roads and motorized trails identified as problems are reconstructed, relocated, or decommissioned.
- 12A-016 Maintain existing licensed motorcycle routes. Allow reconstruction and relocation of existing routes. Building a new trail on the ridge or side slope and closing a trail in the riparian area qualifies as relocation for the purposes of this standard.
- 12A-017 New routes will not be designated.
- 12A-018 Seasonal closures are used to protect soil, water, and wildlife habitat security. (See Management Prescription 7C)

Scenery

- 12A-019 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	H	H	H	H	H	H

Range

- 12A-020 Existing grazing allotments are allowed to continue. New allotments are not permitted.

Minerals

- 12A-021 These areas are available for federal oil and gas leasing with a no surface occupancy stipulation. Other Federal minerals may be available on a case-by-case basis after full consideration of effects on semi-primitive recreation opportunities and values.
- 12A-022 These areas are not available for mineral materials for commercial or personal purposes. Administrative or free use of mineral materials is allowed when: a) the materials are used within the backcountry area itself; and b) use is necessary to protect the resources and values of the area.
- 12A-023 Private mineral rights exist in some areas across the Jefferson National Forest. Roads, wells, and other necessary infrastructure associated with these rights are allowed. Requests for access to a non-Federal interest in lands pursuant to a reserved or outstanding right are recognized, and reasonable access is granted.

Roads

- 12A-024 Do not construct new permanent roads, subject to valid existing rights or leases. Temporary road construction to facilitate insect/disease treatments, hazardous fuels reduction, or salvage is allowed.
- 12A-025 Road reconstruction and minor relocation are permitted after full consideration of effects on backcountry resources and values.
- 12A-026 Decommission any roads not needed for recreational or administrative access.
- 12A-027 Maintain an open road density at or below 1/2 mile per square mile (applies to National Forest System roads only).

Lands and Special Uses

12A-028 These areas are unsuitable for designation of new utility corridors, utility rights-of-way, or communication sites. Continue existing uses. Require a landscape management plan with screening, feathering, and other vegetation management techniques to mitigate the visual and other impacts of upgraded, or reauthorized utility corridors or communication sites.

**12A REMOTE
BACKCOUNTRY
RECREATION-FEW
OPEN ROADS**

**12B REMOTE
BACKCOUNTRY
RECREATION
NON-MOTORIZED**

12B REMOTE BACKCOUNTRY RECREATION - NON-MOTORIZED

This management prescription is allocated to approximately 91,300 acres (13%) across the Jefferson National Forest.

EMPHASIS:

Recreation opportunities are provided in large remote areas where users can obtain a degree of solitude and the environment can be maintained in a near-natural state. There is little evidence of humans or human activities other than recreation use and non-motorized trails. These areas are generally 2500 acres or greater in size, unless the area is adjacent to a wilderness or other backcountry recreation area. Existing roads are closed to all but occasional administrative use.

DESIRED CONDITION:

These areas provide large tracts of backcountry recreation opportunities with a semi-primitive emphasis. Closed roads are available for both non-motorized uses as well as administrative access. Hiking, backpacking, mountain bike riding, horseback riding, rock climbing, nature study, hunting, and fishing are typical activities available in a setting where freedom from the sights and sounds of modern civilization is important. Visitors see little evidence of humans or human activities other than backcountry recreation use, maintenance of wildlife openings, and occasional prescribed burning. Outdoor skills and self-reliance are important for visitors because of the remoteness of these areas.

The foreground the Appalachian National Scenic Trail encompasses a portion of this management prescription. Within the foreground of the Appalachian Trail, management practices are designed to achieve the desired condition of this management prescription as well as protect the Appalachian Trail experience, strengthen the role of volunteers and volunteer organizations, provide opportunities for high quality outdoor recreation experiences, and provide for the conservation and enjoyment of the nationally significant scenic, historic, natural and cultural qualities of the land through which the Appalachian Trail passes.

The landscapes of these areas are primarily shaped by natural processes (floods, storms, insects, diseases, and fires). Landscapes feature a structurally diverse mid- to late-successional forest community with a continuous forested canopy, with the exception of occasional pastoral and historic/cultural enclaves. The valued character of the natural appearing and cultural landscapes either appears intact or is actually intact. There are no noticeable deviations.

Prescribed fire plays an important role in the maintenance of forested communities found throughout this management prescription. Prescribed fire is used to restore and maintain threatened and endangered species habitats, to ensure the continued presence of fire-dependent southern yellow pine ecosystems, to maintain fire-associated forested communities, and to reduce fuel buildups. Lightning caused wildland fires are used when possible.

**12B REMOTE
BACKCOUNTRY
RECREATION
NON-MOTORIZED**

These lands are classified as unsuitable for timber production and timber harvesting rarely occurs unless necessary to contain an insect or disease outbreak or slow the spread of a non-native invasive pest. Salvage of dead and damaged trees may occasionally occur to reduce fuel buildups or to manage outbreaks of insect and diseases; however, it is limited to areas with existing road access since permanent and temporary road construction is prohibited. A combination of prescribed fire and wildlife habitat improvements maintain some early successional shade intolerant forest communities, however uneven-aged forest communities with intermediate to high shade tolerance dominate the area. Aside from these occasional management activities, natural processes will eventually result in a large patch old growth forest matrix throughout most of this area interspersed with naturally occurring brushy and herbaceous openings. Cavity trees, cull trees, standing dead trees, and down logs will be common throughout the area as a result of natural mortality. Occasional large openings of early successional habitat may be created through natural disturbance.

Wildlife openings, linear strips, and old field habitats are maintained in a grass/forb or shrub/scrub condition. Wildlife species associated with area-sensitive mid- to late-successional deciduous forest habitats expected to inhabit this area include ovenbird, cerulean warbler, black-billed cuckoo, and Swainson's warbler. This management prescription also provides suitable habitat for other mid- to late-successional species including hooded warbler, southern pigmy shrew, downy woodpecker, eastern gray squirrel, eastern fox squirrel, and sharp-shinned hawk. In addition, the distribution of these areas will provide denning sites and remote habitat conditions for black bear within its range. The protection of rare communities and species associates will be provided, along with protection measures for population occurrences for threatened, endangered, sensitive, and locally rare species.

Road density is less than ½ mile per 1,000 acres, with closed roads serving as fire breaks, wildlife linear strips, hiking trails, and administrative access.

STANDARDS

Terrestrial and Aquatic Species

- 12B-001 Existing old fields, wildlife openings, and other habitat improvements for fish and wildlife may be present and maintained, but no expansion of openings or creation of new permanent openings of this type occurs. Native species are emphasized when establishing food plants for wildlife. Some openings provide permanent shrub/sapling habitat as a result of longer maintenance cycles.

Rare Communities and Old Growth

- 12B-002 Rare communities requiring disturbance are maintained through wildland fire use, prescribed fire, timber harvest, or felling and leaving of trees.
- 12B-003 Old growth patches of all sizes and community types are maintained and restored.

Vegetation and Forest Health

- 12B-004 Allow control of insect and disease outbreaks when necessary to protect the values for which the area was established, to reduce hazards to visitors, or for safety and legal reasons. When actions are needed, first consider biological controls, hand-control methods, and pesticides.
- 12B-005 Slow-the-Spread, suppression, and eradication of non-native pests is allowed.

12B-006 Salvage harvesting operations are allowed to reduce fuels and the risks and hazards of damage from insects and diseases, using existing roads only.

Timber Management

12B-007 These lands are unsuitable for timber production. Except associated with insect/disease outbreaks, hazardous fuels reduction, salvage or valid existing rights and leases, timber harvest is not allowed.

Non-timber Forest Products

12B-008 Personal use firewood cutting is prohibited unless it is associated with allowable salvage operations.

Prescribed Fire and Wildland Fire Use

12B-009 Prescribed fire, wildland fire use, mechanical fuels treatments, and associated hand tool or mechanized fire line construction are allowed to reduce wildland fire potential due to high fuel loadings, improve and maintain wildlife habitat, or to benefit fire-dependent and associated species such as table mountain pine and oak forests. Use natural fuel breaks such as streams, roads, rock slides, etc where possible to minimize fireline construction.

Recreation

12B-010 These backcountry recreation areas are managed for the Semi-Primitive Non-Motorized (SPNM) Recreation Opportunity although actual ROS classes range from Semi-Primitive Non-Motorized (SPNM), to Semi-Primitive 2 (SP2). SPNM settings are maintained or expanded. See ROS Map.

12B-011 New non-motorized trails are allowed.

12B-012 OHV use is prohibited except for administrative use.

Appalachian National Scenic Trail

12B-013 Within the foreground of the Appalachian Trail, all activities will be planned and carried out in cooperation with the appropriate Appalachian Trail management partner(s). See Management Prescription 4A for additional management direction applicable to this corridor.

Scenery

12B-014 Management activities are designed to meet or exceed the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	H	H	H	H	H	H	H

Range

12B-015 Livestock grazing is not permitted.

Minerals

12B-016 These areas are available for federal oil and gas leasing with a no surface occupancy stipulation. Other Federal minerals may be available on a case-by-case basis after full consideration of effects on semi-primitive recreation opportunities and values.

**12B REMOTE
BACKCOUNTRY
RECREATION
NON-MOTORIZED**

12B-017 These areas are not available for mineral materials for commercial, personal, or free use purposes. Administrative use of mineral materials is allowed when: a) the materials are used within the backcountry area itself; and b) use is necessary to protect the resources and values of the area.

**12C REMOTE
BACKCOUNTRY
RECREATION-
REMOTE AREAS**

12B-018 Private mineral rights exist in some areas across the Jefferson National Forest. Roads, wells, and other necessary infrastructure associated with these rights are allowed. Requests for access to a non-Federal interest in lands pursuant to a reserved or outstanding right are recognized, and reasonable access is granted.

Roads

12B-019 Existing roads are closed to all but occasional administrative use which may include the following: (1) utility maintenance; (2) existing wildlife opening maintenance; (3) access required for implementation of prescribed burning; (4) access required for wildland fire suppression; and (5) maintenance of the Audie Murphy Monument.

12B-020 Decommission any roads not needed for administrative access.

12B-021 Do not permit road construction or reconstruction, subject to valid existing rights and leases.

Lands and Special Uses

12B-022 These areas are unsuitable for new linear rights-of-way and communication sites. Require a landscape management plan with screening, feathering, and other vegetation management techniques to mitigate the visual and other impacts of upgraded, or reauthorized utility corridors or communication sites.

12B-023 Existing special use authorizations are allowed to continue. Other new special uses are authorized if consistent and compatible with the desired condition of these areas.

12C NATURAL PROCESSES IN BACKCOUNTRY REMOTE AREAS

This management prescription is allocated to approximately 9,800 acres (1%) across the Jefferson National Forest.

EMPHASIS:

Management of these areas emphasizes a wilderness-like remote recreation experience where mountain bikes are allowed and chainsaws may be used to maintain trails. Areas are 2500 acres or greater in size, unless the area is adjacent to a wilderness or other backcountry recreation area. Existing roads are decommissioned.

DESIRED CONDITION:

These areas retain a natural, forested appearance shaped primarily by natural processes. This natural evolving landscape character features a structurally diverse older aged forest community with a continuous forested canopy, with the exception of occasional gaps created by storms, insects, diseases, or fire. The valued character of these landscapes is intact with no deviations.

Natural processes will eventually result in a large patch of late successional to old growth forest matrix dominated by shade tolerant hardwoods and white pines throughout most of this area. Rare communities and associated species not dependent upon disturbance will

continue to exist. Disturbance dependent communities will decline across this prescription area and be confined to small brushy and herbaceous gaps and occasional large openings from natural disturbance events. Insects and diseases, primarily gypsy moth, hemlock woolly adelgid, oak, decline, and southern pine beetle, play a major role in shaping future species composition and successional stages across these areas. Non-native vegetation occurs only as transients and is not self-perpetuating. Cavity trees, cull trees, standing dead trees, and down logs are common throughout the area as a result of natural mortality.

Wildlife species associated with area-sensitive mid- to late-successional forest habitats that are expected to inhabit this area include: ovenbird; cerulean warbler; wood thrush; pileated woodpecker; hooded warbler; and scarlet tanager. This management prescription also provides suitable habitat for black bear.

Management of the area is focused on protecting and preserving the natural environment from human influences. Timber harvest is not appropriate within this prescription area. Wildland fires may be used to restore and maintain the historic fire regime. Prescribed fire may be used to reduce the risks and consequences of wildland fire escaping from the area. Integrated pest management favoring biological controls may be used to eradicate or suppress non-native invasive pests. Non-commercial felling of trees with chainsaws may be used to construct and maintain trails.

Recreation management is designed to provide solitude and remoteness in the most primitive and natural recreation setting possible. To this end, access to the area is limited. Trailheads at surrounding roads are designed with sensitivity to scale and character to set the tone for experiencing a primitive recreation experience. Once in the area, visitors on foot or horseback must rely, to varying degrees, on their own personal physical abilities and primitive recreation skills. Visitors are isolated from the sights and sounds of others and encounters with other visitors are rare. Travel is strictly non-motorized, although mountain bikes and horse are permitted.

The foreground of the Appalachian National Scenic Trail encompasses a portion of this management prescription. Within the foreground of the Appalachian Trail, management practices are designed to achieve the desired condition of this management prescription as well as protect the Appalachian Trail experience, strengthen the role of volunteers and volunteer organizations, provide opportunities for high quality outdoor recreation experiences, and provide for the conservation and enjoyment of the nationally significant scenic, historic, natural and cultural qualities of the land through which the Appalachian Trail passes.

STANDARDS

Terrestrial and Aquatic Species

12C-001 Existing wildlife openings and old fields are not maintained. Expansion of existing openings and/or creation of new openings is prohibited. Where desired, existing openings may be obliterated through tree planting and eradication of non-native species.

Vegetation and Forest Health

12C-002 Only control insect and disease outbreaks to prevent damage to resources on adjacent land or where needed for safety or legal reasons.

12C-003 Recently established non-native invasive plants may be eradicated.

12C-004 Slow-the-Spread of gypsy moth is allowed.

12C-005 Tree cutting may occur incidental to other management activities such as

**12C REMOTE
BACKCOUNTRY
RECREATION-
REMOTE AREAS**

trail construction, maintenance, removal of hazardous trees, fireline construction, etc. Mechanical equipment, such as chainsaws, is allowed.

Timber Management

12C-006 These lands are unsuitable for timber production. Timber harvest is not allowed, subject to valid existing rights.

Non-timber Forest Products

12C-007 Personal use firewood cutting is prohibited.

Wildland Fire Suppression

12C-008 Tractor-plow units or bulldozers are allowed only on fires with an imminent threat to life or private property that cannot be controlled by other means. Evidence of such use is obliterated as soon as practicable.

Prescribed Fire and Wildland Fire Use

12C-009 Prescribed fire, wildland fire use, mechanical fuel treatments, and associated hand line construction are allowed to reduce wildland fire potential due to high fuel loadings and to benefit fire dependent communities. Use natural fuel breaks such as streams, roads, rock slides, etc. where possible to minimize fireline construction. Fireline construction with heavy equipment is not allowed.

Recreation

12C-010 These backcountry recreation areas are managed for the Semi-Primitive Non-Motorized (SPNM) Recreation Opportunity though actual ROS classes range from Semi-Primitive Non-Motorized (SPNM), to Semi-Primitive 2 (SP2). SPNM settings are maintained or expanded. See ROS Map.

12C-011 Mountain bike and horse trails may be maintained and created within these areas using mechanical equipment suitable for trail maintenance.

12C-012 These areas are unsuitable for designation of new OHV routes or ATV use areas, except for administrative use.

Appalachian National Scenic Trail

12C-013 Within the foreground of the Appalachian Trail, all activities will be planned and carried out in cooperation with the appropriate Appalachian Trail management partner(s). See Management Prescription 4A for additional management direction applicable to this corridor.

Scenery

12C-014 Management activities are designed to meet the following Scenic Integrity Objectives, which may vary by inventoried Scenic Class:

Inventoried Scenic Class	1	2	3	4	5	6	7
Scenic Integrity Objectives	VH						

Range

12C-015 Livestock grazing is not permitted.

Minerals

- 12C-016 These areas are administratively unavailable for Federal oil and gas or other Federal mineral leases. Allow existing Federal leases to continue until expiration. Do not reauthorize. Allow roads, pipelines, utilities, and other facilities per existing Federal leases.
- 12C-017 These areas are not available for mineral materials for commercial, personal, or free use purposes. Administrative use of mineral materials is allowed when: a) the materials are used within the backcountry area itself; and b) use is necessary to protect the resources and values of the area.
- 12C-018 Private mineral rights exist in some areas across the Jefferson National Forest. Roads, wells, and other necessary infrastructure associated with these rights are allowed. Requests for access to a non-Federal interest in lands pursuant to a reserved or outstanding right are recognized, and reasonable access is granted.

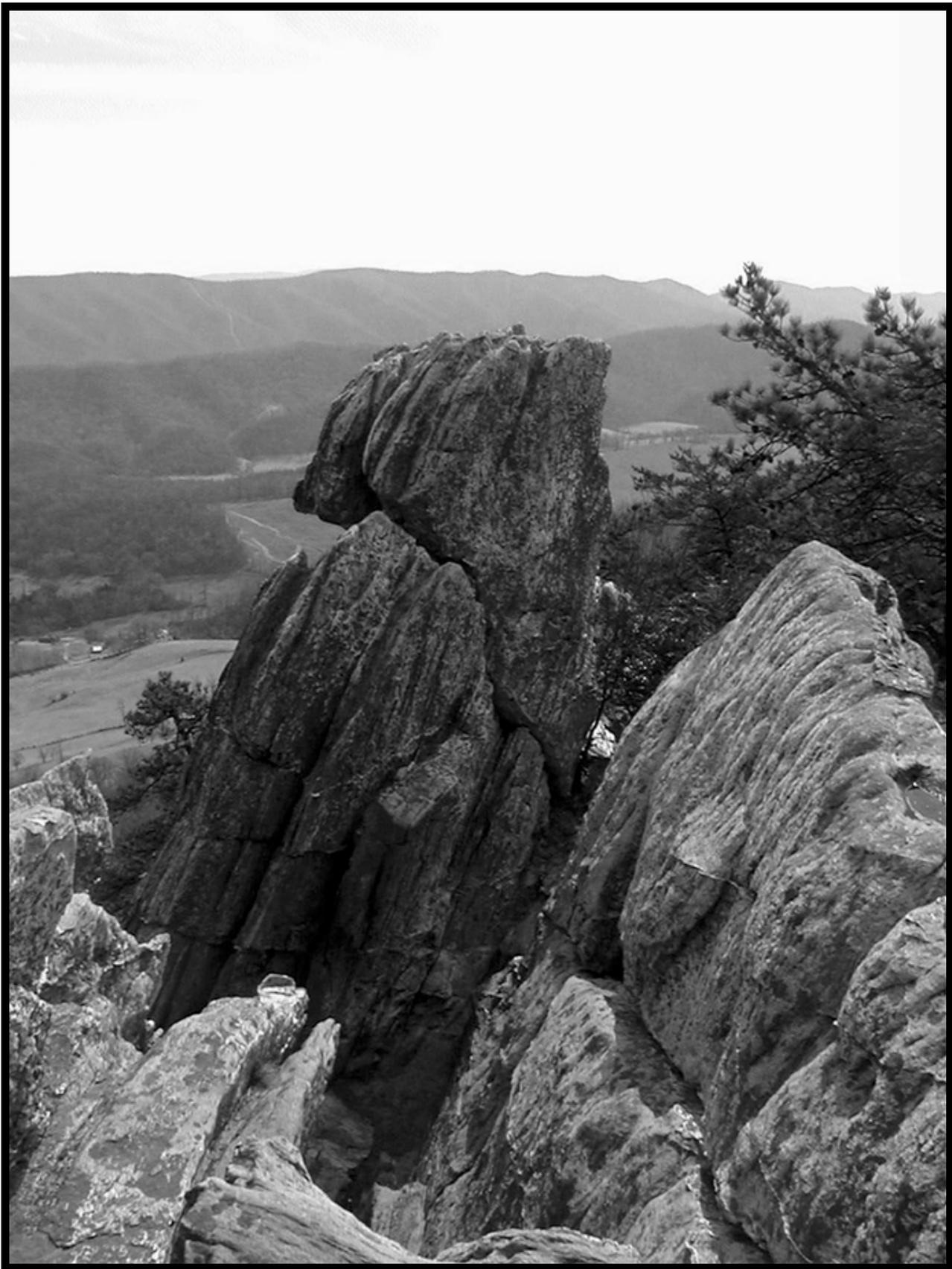
**12C REMOTE
BACKCOUNTRY
RECREATION-
REMOTE AREAS****Roads**

- 12C-019 Decommission all roads.
- 12C-020 Do not permit road construction or reconstruction, subject to valid existing rights and leases.

Lands and Special Uses

- 12C-021 These areas are unsuitable for new linear rights-of-way and communication sites. Require a landscape management plan with screening, feathering, and other vegetation management techniques to mitigate the visual and other impacts of upgraded or reauthorized utility corridors or communication sites.
- 12C-022 Existing special use authorizations are allowed to continue. Other new special uses are authorized if consistent and compatible with the desired condition of these areas.





The Jefferson National Forest is known for its unique scenic beauty.