

WILDLIFE AND
THREATENED,
ENDANGERED,
AND SENSITIVE
SPECIES

- OBJECTIVE 9.02** Maintain a stable and/or increasing population trend for the **Indiana bat** through protection and proactive management of Cave Protection Areas. (See Management Prescription 8E4.)
- OBJECTIVE 9.03** Maintain a stable and/or increasing population trend for the **Peaks of Otter salamander** over the planning period through protection and maintenance of the Habitat Conservation Area. (See Management Prescription 8E2.)
- OBJECTIVE 9.04** Maintain the current number of populations/occurrences of **northeastern bulrush**, **Virginia spirea** and **small-whorled pogonia** through protection and maintenance of existing sites. (See Management Prescriptions 4D and 9F.)
- OBJECTIVE 9.05** Increase the number of populations/occurrences of **Virginia round-leaf birch** with the assistance of reintroduction and propagation efforts. (See Management Prescription 4D.)

STANDARDS:

Wildlife Management

- FW-32:** Retain soft mast producing species (dogwood, black gum, hawthorne, grapes, serviceberry, etc.) during vegetation management treatments when consistent with overall regeneration and species composition objectives.
- FW-33:** Potential black bear den trees will be retained during all vegetation management treatments. Potential den trees are those that are greater than 20" diameter breast height which are hollow with broken tops or with limbs greater than 12 inches diameter broken near the bole of the tree.

T/E/S Species Management

- FW-34:** Maintain records of locations and conditions of federally listed threatened and endangered species, and of Regional Forester's sensitive species within the planning area.
- FW-35:** Control non-native invasive species where they are causing negative effects to threatened, endangered, or sensitive species. Do not intentionally introduce non-native species that are known or suspected of causing negative effects to federally listed threatened and endangered species in or near sites supporting these species.
- FW-36:** Do not issue permits for collection of threatened, endangered, sensitive, and locally rare species, except for approved scientific purposes.

Bald Eagle Management

- FW-37:** Delineate and maintain 1,500 foot protection zones around all bald eagle nest and communal roost sites until they are determined no longer suitable. Management activities that modify the forest canopy within this zone are designed to be compatible with recovery of this species.

GOALS AND OBJECTIVESWILDLIFE AND
THREATENED,
ENDANGERED,
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SPECIES

GOAL 6 Maintain and restore natural communities in amounts, arrangements, and conditions capable of supporting native and desired non-native species within the planning area. Provide quality wildlife-based recreational opportunities to the public, including hunting, fishing, and wildlife viewing.

See Objectives for Riparian ecosystems (Goal 2), Aquatic habitats (Goal 3), Vegetation Goal 12), Old Growth (Goal 13), and Fire (Goal 18) related to this Goal.

GOAL 7 Provide breeding, wintering, migration, staging and stop-over habitat for migratory birds in ways that contribute to their long-term conservation.

OBJECTIVE 7.01 Implement 400-600 acres of habitat improvement treatments per year to increase structural diversity for migratory birds in mid to late successional mixed mesophytic, northern hardwood, mesic oak forests, or xeric oak and oak-pine woodlands. (See also Objectives 12.02, 12.03, 12.05, 18.02, and 18.03.)

OBJECTIVE 7.02 Maintain and restore approximately 2,500 acres above 2800 feet elevation in early successional habitats to provide habitat for high-elevation, early successional migratory bird species over the planning period. (See also Objectives 4K3-OBJ1, and 4K4-OBJ1.)

GOAL 8 Maintain or increase habitats for those species needing large, contiguous forested landscapes, especially where such conditions are not found on other lands within the landscape.

OBJECTIVE 8.01 To provide areas with low levels of human disturbance, maintain approximately 252,000 acres under conditions where open road density is less than 0.8 miles per square mile, and off-road vehicle use is restricted throughout the year. Maintain at least 2,400 of these acres in early successional habitat. (See Management Prescription 8C.)

GOAL 9 Contribute to the conservation and recovery of federally listed threatened and endangered species, and contribute to avoiding federal listing of other species under the Endangered Species Act.

OBJECTIVE 9.01 Maintain a stable and/or increasing population trend for the northern flying squirrel through protection, maintenance and restoration of high elevation spruce-fir and northern hardwood forest communities. (See Management Prescriptions 4K3 and 4K4.)

the Forest Health Protection Unit of the Forest Service. Suppression treatments available for use in gypsy moth suppression include, but are not limited to, the bacterial insecticide *Bacillus thuringiensis* var. *kurstaki*, the chemical insect growth regulator diflubenzuron, and the gypsy moth specific biological insecticide *Gypchek*.

VEGETATION, OLD
GROWTH, AND
FOREST HEALTH

- FW-82:** Eradication actions are allowed to eliminate isolated infestations of gypsy moth that are newly detected.
- FW-83:** The development, improvement, or experimental testing of high population treatment tactics (insecticide application), low population treatment tactics (mating disruption, sterile insect release, fungal application, insecticide application, and mass trapping), and introduction of natural enemies may be considered in all forest areas except Wilderness or areas under study for possible wilderness inclusion.

Southern pine beetle

- FW-84:** Integrated Pest Management is used to prevent or control damage caused by the southern pine beetle.
- FW-85:** Use hazard rating models and silvicultural treatments to reduce risk of southern pine beetle infestation in pine forests.

Non-native Invasive Plant Species

- FW-86:** The use of Category 1 Species is prohibited.
- FW-87:** The establishment or encouragement of Category 2 Species is prohibited in areas where ecological conditions would favor invasiveness and is discouraged elsewhere. Projects that use Category 2 Species should document why no other (non-invasive) species will serve the purpose and need.
- FW-88:** Favor use of native grasses and wildflowers beneficial as wildlife foods when seeding temporary roads, skid roads, log landings and other temporary openings when slopes are less than 5%. On slopes greater than 5%, favor use of vegetation that best controls erosion.

Pesticides

- FW-89:** Application is supervised by a certified pesticide applicator. Workers who apply pesticides are trained to ensure minimum impacts and maximum effectiveness. Only those methods that assure proper application of pesticides are used.

Insecticides

- FW-90:** Insecticides known to have negative impacts on aquatic ecosystems are not aerially applied within 200 feet, nor ground applied within 30 horizontal feet of perennial streams, wetlands, or open bodies of water.
- FW-91:** A notice of intent to aerially apply insecticides or other aerially applied intervention tactics (e.g. pheromone flakes) is posted on signs prior to treatment. Signs are placed along roads and trails at major entry points to the treatment area. For wilderness areas, the notice of intent is placed outside the wilderness area at major trailheads. Wilderness areas have signs in place at least one week prior to treatment. Signs inform visitors of the type of intervention tactic and the time span in which application may occur, thus allowing visitors the option of minimizing or avoiding exposure to the treatment.

VEGETATION, OLD GROWTH, AND FOREST HEALTH

- FW-92:** Treatment of developed recreation areas such as picnic areas and campgrounds or dispersed areas of high concentrated use are scheduled during low-use periods, or the areas are temporarily closed in order to minimize human exposure to the treatment. Signs are posted in these areas at least 24 hours before treatment begins. Signs provide information on scheduled treatment dates and type of treatment.
- FW-93:** Treatment of dispersed recreation areas accessible by trails have signs posted at all major points of entry. Signs are in place at least 24 hours before treatment begins. The signs provide information on date and type of treatment in order to allow visitors to minimize or avoid exposure.

Herbicides

- FW-94:** Method and timing of application are chosen to achieve project objectives while minimizing effects on non-target vegetation and other environmental elements. Selective treatment is preferred over broadcast treatment. Application methods from most to least selective are:
 - ▶ Cut surface treatments;
 - ▶ Basal stem treatments;
 - ▶ Directed foliar treatments;
 - ▶ Soil spot (spot around) treatments;
 - ▶ Soil spot (spot grid) treatments;
 - ▶ Manual granular treatments;
 - ▶ Manual/mechanical broadcast treatments;
 - ▶ Helicopter treatments.

Table 2-6. Classification of chemical/method combinations when used at typical rates and exposures

Application Method	Class			
	A	B	C	D
Manual ground: Cut surface	Dicamba Glyphosate Imazpyr	Picloram Triclopyr Amine	2, 4-D Amine	
Basal stem	Diesel Kerosene Limonene	Triclopyr Ester 2, 4-DP	2, 4-D Ester	
Soil Spot	Hexazonone			
Foliar Spray	Fosamine Glyphosate Hexazonone Imazpyr Kerosene	Limonene Picloram Sulfometuron Methyl Triclopyr Amine Triclopyr Ester	2, 4-D Amine 2, 4-D Ester 2, 4-DP	Tebuthiuron
Mechanical ground	Diesel Dicamba Fosamine Glyphosate Hexazonone Imazpyr	Picloram Sulfometuron Methyl Triclopyr Amine Triclopyr Ester 2, 4-DP	2, 4-D Amine 2, 4-D Ester Tebuthiuron	
Aerial	Diesel Fosamine Glyphosate Hexazonone Imazpyr Kerosene	Limonene Picloram Sulfometuron Methyl Triclopyr Amine Triclopyr Ester 2, 4-DP	2, 4-D Amine 2, 4-D Ester Tebuthiuron	

RECREATION

trail closure, avoidance and reclamation; and timing of project implementation to reduce impacts during high use periods.

- FW-159: If unacceptable resource damage is identified, that section of the trail will be closed, and be re-routed if possible, until the damage is repaired.

Recreation Opportunity Spectrum

- FW-160: The Recreation Opportunity Spectrum (ROS) inventory completed for this Forest Plan is displayed on a Map accompanying this Forest Plan. The Standards in this section and under each Management Prescription in Chapter 3 refer to this inventory.

- FW-161: New structures and facilities are constructed and maintained to meet the adopted ROS class for the area.

- FW-162: Recreation opportunity maps will govern all new projects, including special uses. Existing conditions may not meet the assigned ROS classes.

Exceptions to the following six standards are made for fire management and valid existing rights and leases.

- FW-163: Prohibit new road construction, including temporary roads, in **semi-primitive non-motorized** areas. These areas do not contain any improved roads. Motorized recreational uses are prohibited within semi-primitive non-motorized areas. Administrative motorized uses, such as those associated with fire suppression, prescribed burning, maintenance of wildlife openings, or forest health needs are allowed.

- FW-164: Prohibit new permanent road construction within **semi-primitive motorized** areas. Road restoration and maintenance is limited to that necessary to protect soil, water, and biological resources. Road restoration is done in such a manner as to maintain the unimproved nature of the road. Temporary road construction within semi-primitive motorized areas is allowed provided such roads are decommissioned following the temporary use.

- FW-165: Maintain existing unimproved roads and motorized trails within **semi-primitive motorized** areas to a standard necessary to protect soil, water, and biological resources while maintaining an off-highway type recreation experience.

- FW-166: **Semi-primitive 2** areas are designated under this Forest Plan to prevent loss of semi-primitive non-motorized and semi-primitive motorized recreation opportunities. Management activities and uses, including-but not limited to—timber harvest, prescribed burning, livestock grazing, off-highway vehicle use, mineral leasing, and special use authorizations, are allowed provided such use will not result in a loss of semi-primitive non-motorized or semi-primitive motorized recreation opportunities.

- FW-167: Prohibit new permanent road construction within **semi-primitive 2** areas. Road restoration and maintenance is allowed provided an unimproved or temporary road is not converted to an improved or permanent road. Allow temporary road construction in semi-primitive 2 areas, provided such roads are decommissioned following the temporary use.

- FW-168: Maintain existing improved roads within **semi-primitive 2** areas when necessary to achieve the desired condition of the appropriate management prescription. Decommission unneeded roads in these areas.

OBJECTIVE 20.02 Increase the following recreation opportunities within the capabilities of the land:

RECREATION

- ▶ Wildlife and bird viewing, photography, interpretive opportunities, and nature trails;
- ▶ Day use and group facilities;
- ▶ Water-based activities;
- ▶ Hiking, biking, and equestrian trail systems, especially in non-motorized settings with high quality landscapes;
- ▶ Designated Off-Highway Vehicle roads for full size off road vehicles;
- ▶ Special Interest Areas - historical, geologic, and prehistoric.

OBJECTIVE 20.03 Maintain approximately 1,125 miles of non-motorized trails and approximately 60 miles of motorized trails.

OBJECTIVE 20.04 Evaluate one new All-Terrain Vehicle area on the southern end of the I-81 corridor and one on the Clinch Ranger District.

STANDARDS

Developed Recreation

FW-151: Manage developed recreation areas according to Management Prescription 7D.

Dispersed Recreation

FW-152: Disabled hunter access is provided on roads and trails specifically designated for such use.

Backcountry Recreation

FW-153: Manage backcountry recreation areas according to Management Prescriptions 12A, 12B, 12C, or 8C.

Trails

FW-154: The Appalachian Trail standards are addressed in the standards for Management Prescription 4A.

FW-155: Trails are closed to motorized recreation use unless designated otherwise.

FW-156: Motorized use of the trail system is permissible for administrative purposes, emergencies, and at road crossings, when the trail is specifically designated for motorized use, or when the trail is on or coincident with an open public road.

FW-157: Any new trail construction or reconstruction is carefully located to avoid impacts to threatened, endangered, sensitive, or locally rare species habitat.

FW-158: Management activities along system trails shall be implemented with sensitivity to the experience of the users. Appropriate techniques to mitigate the effects of management activities are addressed during site-specific project analysis. Measures to mitigate the effects of activities might include vegetative screening; the temporary re-routing of trail segments; temporary

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 Except within Lewis Fork and Little Wilson Creek Wildernesses, livestock grazing is not permitted.

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.

STANDARDS1B
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 With the exception of Cave Springs on the Clinch Ranger District, 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. The Cave Springs area is available with a No Surface Occupancy Stipulation for federal oil and gas leases and administratively unavailable for other federal mineral 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

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

8A1 MIX OF
SUCCESSIONAL
HABITATS IN
FORESTED
LANDSCAPES

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. Calculations of late-successional to old growth forest conditions include embedded old growth.
- 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

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

8B EARLY
SUCCESSIONAL
HABITAT
EMPHASIS

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 greater than 100 years of age. Calculations of late-successional to old growth forest conditions include embedded old growth.
- 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.

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

8C BLACK BEAR
HABITAT
MANAGEMENT

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 greater than 40 years of age.
- 8C-OBJ2 Maintain a minimum of twenty-five percent of the area in late-successional to old growth forest conditions greater than 100 years of age. 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

8E1 RUFFED GROUSE/WOODCOCK HABITAT EMPHASIS8E1 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. Calculations of late-successional to old growth forest conditions include embedded old growth.
- 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.

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.

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.

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 or biochemical 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.

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.

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 or biochemical 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

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 or biochemical 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

4E CULTURAL/
HERITAGE 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

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

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 or biochemical 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 will 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 or biochemical 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

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 or biochemical 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;

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 or biochemical 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.

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
PROTECTION
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 or biochemical 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.

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

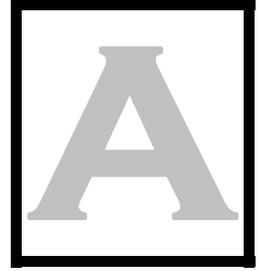
Terrestrial and Aquatic Species

- 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 or biochemical 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.

DEFINITION OF RIPARIAN CORRIDOR



RIPARIAN CORRIDORS VERSUS RIPARIAN AREAS

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 width (Ilhardt et al. 2000). A **Riparian Corridor**, on the other hand, 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.

RIPARIAN
CORRIDORS VER-
SUS
RIPARIAN
AREAS

DETERMINATION
OF RIPARIAN
CORRIDORS

DETERMINATION OF RIPARIAN CORRIDORS

Due to their spatial extent, riparian corridors are not identified on the Forest Plan map of prescription allocations. Estimated acreages of the Riparian Prescription allocations are based on the widths described in Tables in C-1 and C-2. For project planning and implementation, the following process will be used to determine the extent of site-specific riparian corridors.

Riparian corridor widths are designed to encompass the riparian area defined on the basis of soils, vegetation and hydrology and the ecological functions and values associated with the riparian area. The widths in Tables C-1 and C-2 shall be used to define the riparian corridor if the corridor is not site-specifically determined as described below.

If a site-specific field investigation determines the need to vary the widths in Table C-1 and C-2, that width shall become the project level riparian corridor. This corridor shall be determined by an interdisciplinary analysis using site-specific information to ensure that riparian values and functions are maintained.

The slope-dependent riparian corridor widths are measured in on-the-ground surface feet perpendicular from the edge of the channel or bank (stream, water body, etc.) and extend out from each side of a stream. For ponds, lakes, sloughs, and wetlands (including seeps or springs associated with wetlands) the measurement would start at the ordinary high water mark and go around the perimeter. For braided streams, the outermost braid will be used as the water's edge. An interrupted stream (a watercourse that goes underground and then reappears) will be treated as if the stream were above ground. (An acceptable level of error for on-the-ground measurements of these widths is $\pm 10\%$.) The riparian corridor includes human-created reservoirs, wildlife ponds, wetlands, and waterholes connected to or associated with natural water features. In addition, those areas not associated with natural water features, but support riparian flora or fauna, will have a riparian corridor designation. The riparian corridor management direction does not apply to constructed ponds developed for recreation uses; or to human-made ditches, gullies, or other features that are maintained or in the process of restoration. For these areas, site-specific analysis will determine appropriate protective measures. (See also the Forest-wide Standards in Chapter 2.)

DETERMINATION OF RIPARIAN CORRIDORS

Tables A-1 and A-2 do not apply to constructed ponds developed for recreation uses; or to human-made ditches, gullies, or other features that are maintained or in the process of restoration. For these areas, site-specific analysis will determine the appropriate protective measures.

OVERVIEW OF RIPARIAN CORRIDORS

Table A-1. Riparian Corridor Minimum Widths For Perennial Streams, Lakes, Ponds, Wetlands, Springs, or Seeps

Slope Class	0-10% Core Area	11-45% Core + Extended Area	45%+ Core + Extended Area
Minimum width in feet (as described above)	100	125	150*

Table A-2. Riparian Corridor Minimum Widths For Intermittent Streams

Slope Class	0-10% Core Area	11-45% Core + Extended Area	45%+ Core + Extended Area
Minimum width in feet (as described above)	50	75*	100*

* The Extended Area is the outer 25 feet (on 11-45 % slopes) and 50 feet (on 45% and greater slopes).

See Glossary in Appendix B for definitions of wetlands, seeps, and springs included in riparian corridor.

OVERVIEW OF RIPARIAN CORRIDORS

The figure below is a simplified representation of the Riparian Corridor that demonstrates its extension on both sides of a watercourse, down into the water table, and laterally around wetlands and other surface water sources. The Riparian Corridor may fall within or beyond the true Riparian Area.

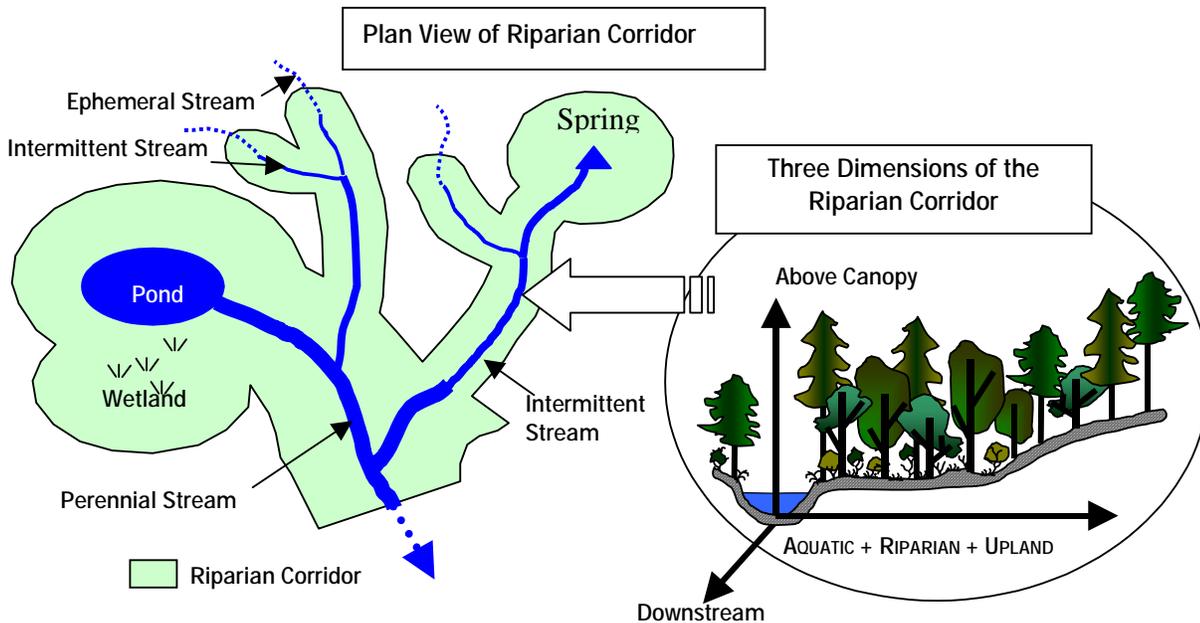


Figure A-1 Simplified Representation of a Riparian Corridor