

CHAPTER 4 – DESIGN CRITERIA

STANDARDS OVERVIEW

While desired conditions and objectives define where we are headed with management of the George Washington National Forest, standards define the “boundaries” we are to follow in designing projects. Standards place limitations on management activities or resource uses, generally for environmental protection, public safety, or resolution of an issue. In essence, standards put a condition on the application of a suitable use.

Forestwide standards apply to the entire Forest unless superseded by specific management prescription area direction. When a management prescription is silent regarding a specific resource activity, the forestwide direction applies. These standards are generally listed with the primary management activity or geographic area under consideration. For example, a standard related to riparian areas while conducting a timber sale would be listed under Vegetation Management. A standard related to Mount Pleasant National Scenic Area would be listed under Mount Pleasant National Scenic Area. However, care should be taken to be aware of the applicability of all standards during project design and implementation.

In addition to the standards found in this Forest Plan, the Forest is required to comply with applicable laws, executive orders, and regulations, manuals, and handbooks.

FORESTWIDE STANDARDS

Watershed Resources

WATER AND SOIL QUALITY

- FW-1** Resource management activities that may affect soil and/or water quality meet or are more stringent than Virginia and West Virginia Best Management Practices, State Erosion Control Handbooks, and standards in this Forest Plan.
- FW-2** Locate all facilities (e.g. trails, trail shelters, restrooms, designated campsites, etc.) in a manner that minimizes the possibility of contamination of water sources. Educate users on “leave no trace” camping practices, including sanitation practices that minimize the potential for contamination of water sources.
- FW-3** Prior to authorizing or re-authorizing new or existing diversions of water from streams, lakes, ponds, springs, or ground water, determine the instream flow or water level needs sufficient to protect stream processes, aquatic and riparian habitats and communities, and recreation and aesthetic values.
- FW-4** Water is not diverted from streams (perennial or intermittent), lakes, ponds, springs, or ground water, when an instream flow needs or water level assessment indicates the diversion would adversely affect protection of stream processes, aquatic and riparian habitats and communities, or recreation and aesthetic values.
- FW-5** On all soils dedicated to growing vegetation, the organic layers, topsoil and root mat will be left in place over at least 85% of the activity area and revegetation is accomplished within 5 years. (The activity area is the area of potential soil disturbance expected to produce vegetation in the future, for example: timber harvest units, prescribed burn area, grazing allotment, etc.)
- FW-6** Locate and design management activities to avoid, minimize, or mitigate potential erosion.
- FW-7** Use ditchlines and culverts when new permanent road construction grades are more than 6% and the road will be managed as open for public use.

- FW-8** Water saturated soils in areas expected to produce biomass should not receive vehicle traffic or livestock trampling to prevent excessive soil compaction.
- FW-9** Where soils are disturbed by management activities, appropriate revegetation measures should be implemented. When outside the normal seeding seasons, initial treatments may be of a temporary nature, until permanent seeding can be applied. Revegetation should be accomplished within 5 years. For erosion control, annual plants should make up >50% of seed mix when seeding outside the normal seeding season and the area should be reseeded with perennials within 1½ years.
- FW-10** Adjacent to municipal reservoirs, a lakeside management zone shall exist that extends at least 100 feet from the shore for land slopes of 10 percent or less, 150 feet for slopes of 11 percent to 45 percent, and 200 percent for slopes greater than 45 percent.
- FW-11** To protect long-term soil productivity and ecological sustainability:
- No woody biomass utilization is allowed in forested stands less than or equal to site index 40 or in stands with high risk soils.
 - In forested stands greater than site index 40, leave at least 30% of the logging slash created by regeneration harvests.
 - No below ground biomass, existing downed woody material, or stumps will be removed for woody biomass utilization.
 - The determination of woody biomass utilization will depend upon site-specific analysis.
 - Generally, logging slash should be distributed more or less evenly across the harvest area.
- FW-12** Clearcutting is not allowed where high risk soils (as described in Chapter 3-Management Approach for Soils and in the Glossary) are identified.
- FW-13** There are no woody biomass utilization limits for thinning operations that leave a fully stocked residual stand except as identified in FW-11.

AIR QUALITY

Standards for air quality related to prescribed fire use are found in the Fire Management section of this chapter.

- FW-14** Conduct all National Forest management activities (including permitted activities) in a manner that does not result in a significant contribution to: (1) a violation of National Ambient Air Quality Standards; or (2) a violation of applicable provisions in the State Implementation Plan.

RIPARIAN AREAS AND CORRIDORS

Riparian areas and corridors are managed according to Management Prescription Area 11. See Appendix A for the definitions of riparian areas and corridors.

CHANNELED EPHEMERAL ZONES

The following standards apply to 25 feet on each side of a channeled ephemeral stream and 25 feet upstream from the point at which the scoured channel begins (the “nick point”).

- FW-15** Motorized vehicles are restricted in the channeled ephemeral zone to designated crossings. Motorized vehicles may only be allowed on a case-by-case basis, after site-specific analysis, in the channeled ephemeral zone outside of designated crossings.
- FW-16** Management activities expose no more than 10% mineral soil in the channeled ephemeral zone.

- FW-17 Up to 50% of the basal area may be removed, down to a minimum basal area of 50 square feet per acre. Removal of additional basal area is allowed on a case-by-case basis when needed to benefit riparian-dependent resources.
- FW-18 Permitted firewood cutting within the channeled ephemeral zone must take into consideration large woody debris needs. Ranger Districts will identify areas where firewood cutting is not permitted due to large woody debris concerns.
- FW-19 At least partial suspension is required when yarding logs over channeled ephemeral streams.
- FW-20 Large woody debris may be removed if it would otherwise pose a risk to water quality, degrades habitat for aquatic or riparian wildlife species, impedes water recreation (e.g. rafting), or when it poses a threat to private property or Forest Service infrastructure (e.g. bridges). The need for removal is determined on a case-by-case basis.
- FW-21 The addition of large woody debris in channeled ephemeral reaches will primarily be through passive recruitment rather than active placement.
- FW-22 New human-constructed impoundments are allowed on a case-by-case basis, following evaluation of downstream instream flow needs.
- FW-23 When crossing channeled ephemeral streams, culverts, temporary bridges, hardened fords, or corduroy are used where needed to protect channel or bank stability.
- FW-24 Construction of crossings is completed on all channeled ephemerals as soon as possible after work has started on the crossing. Permanent and temporary roads on either side of crossings within the channeled ephemeral zone are graveled.
- FW-25 If culverts are removed, banks and channel must be restored to a natural size and shape. All disturbed soil must be stabilized.
- FW-26 Trails, campsites, and other recreational developments are located, constructed, and maintained to minimize impacts to channel banks and to prevent other resource damage. When existing facilities are causing unacceptable resource damage, appropriate mitigation measures will be implemented. Soils are stabilized on eroding trails and recreational sites.
- FW-27 New non-motorized trail construction is allowed to improve existing trail configuration and improve access.
- FW-28 New motorized trails are prohibited within the channeled ephemeral zone except at designated crossings or where the trail location requires some encroachment; for example, to accommodate steep terrain.
- FW-29 Motorized and non-motorized trail reconstruction and relocation within the channeled ephemeral zone are allowed to reduce impacts to riparian and aquatic resources.
- FW-30 Where grazing is currently allowed and under a permit, control and mitigate to restore, enhance, or maintain the integrity of channels and banks. Grazing permit reauthorization is allowed, provided progress towards mitigation of negative impacts on the channeled ephemeral zones has occurred. New grazing permits will be designed to prevent negative impacts to the channeled ephemeral zone. Livestock will be excluded from channeled ephemeral zones whenever the zone cannot be maintained or restored otherwise.
- FW-31 Feeding troughs and salt and mineral blocks are not allowed inside the channeled ephemeral zone. Watering troughs are appropriately located to protect the streams.
- FW-32 During prescribed fire operations in the channeled ephemeral zone, use the least ground disturbing method of fireline construction, favoring blacklines and handtools.
- FW-33 Do not disk, blade, or plow fireline within the ephemeral stream channels, use them as natural firebreaks. (This applies to the actual stream channel, not the entire 25 foot zone.)
- FW-34 Revegetate and waterbar firelines as quickly as possible, where necessary to prevent erosion. Use water diversions to keep sediment out of channels.

AQUATIC SPECIES

See Management Prescription Area 11 (Riparian Areas) for aquatic species management direction.

Ecological and Species Diversity

- FW-35** 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-36** Favor the retention of large (>20" dbh) standing snags and den trees when implementing silvicultural treatments. Active bear den trees are retained in harvest areas along with an unharvested buffer of at least 100 feet wide on all sides of the den.

THREATENED, ENDANGERED AND SENSITIVE SPECIES MANAGEMENT

- FW-37** 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-38** 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-39** Do not issue permits for collection of threatened, endangered, sensitive, and locally rare species, except for approved scientific purposes.

BALD EAGLE MANAGEMENT

- FW-40** Follow National Bald Eagle Management Guidelines. Avoid timber harvesting operations within 660 feet of an active nest during breeding season. Prescribed burning and other management activities designed to conserve or enhance habitat should be undertaken outside of breeding season around active nest trees. During wildland fire operations, avoid operating helicopters or other fixed-wing aircraft within 1,000 feet of an active nest during the breeding season.

PEREGRINE FALCON MANAGEMENT

- FW-41** Post and enforce seasonal closure orders near active peregrine falcon nests during season of use to control human disturbance.

VIRGINIA NORTHERN FLYING SQUIRREL MANAGEMENT

- FW-42** Follow the USFWS Recovery Plan for Virginia Northern Flying Squirrel, as amended.
- FW-43** Known occurrences of the northern flying squirrel are allocated to Management Prescription 4D-Special Biological Areas, to ensure protection and maintenance of their current populations and surrounding habitat conditions.

MANAGEMENT OF FEDERALLY-LISTED PLANTS

- FW-44** Known occurrences of northeastern bulrush, Virginia sneezeweed, swamp pink, shale barren rock cress, and smooth cone flower are allocated to Management Prescription Area 4D-Special Biological Areas to ensure protection and maintenance of their current populations and surrounding habitat conditions.

COW KNOB SALAMANDER MANAGEMENT

FW-45 If Cow Knob salamanders are found in areas outside the Shenandoah Mountain Crest management prescription area, those areas will be subject to the same management measures as described in the Shenandoah Mountain Crest Management Prescription Area 8E7.

VIRGINIA BIG-EARED BAT MANAGEMENT

FW-46 See standards related to Caves.

INDIANA BAT MANAGEMENT

FW-47 Each Indiana bat hibernaculum has a primary and secondary cave protection area managed according to Management Prescription Area 8E4. If additional hibernacula are found, the desired condition and standards of Management Prescription Area 8E4 apply until an environmental analysis to consider amendment to the Forest Plan is completed.

FW-48 In order to promote potential summer roost trees and maternity sites for the Indiana bat throughout the Forest, planned silvicultural practices in hardwood-dominated forest types will leave all shagbark hickory trees greater than 6 inches diameter at breast height (dbh), except when they pose a safety hazard. In addition:

- Clearcut openings 10 to 25 acres in size will also retain a minimum average of 6 snags or cavity trees per acre, 9 inches dbh or larger, scattered or clumped.
- Group selection openings and clearcuts less than 10 acres in size have no provision for retention of a minimum number of snags, cavity trees, or residual basal area due the small opening size and safety concerns.
- All other harvesting methods (and clearcut openings 26-40 acres in size) will retain a minimum residual 15 square feet of basal area per acre (including 6 snags or cavity trees) scattered or clumped. Residual trees are greater than 6 inches dbh with priority given to the largest available trees, which exhibit characteristics favored as roost trees by Indiana bats.

FW-49 To insure a continuous supply of roost trees and foraging habitat, the following forestwide conditions must be maintained:

- Minimum of 60% of the combined acreage of all FSVEG Forest Types on the Forest will be maintained over 70 years of age; AND
- Minimum of 40% of the combined acreage of all FSVEG Forest Types 53 (white oak, red oak, hickory) and 56 (yellow poplar, white oak, red oak) will be maintained at an age greater than 80 years old.

FW-50 When active roost trees are identified on the Forest, they will be protected with a ¼ mile buffer surrounding them. This protective buffer remains until such time the trees and associated area no longer serve as a roost (e.g. loss of exfoliating bark or cavities, blown down, or decay).

FW-51 No disturbance that will result in the potential taking of an Indiana bat will occur within an active roost tree buffer.

- Commercial timber harvesting, road construction, and use of the insecticide diflubenzuron (Dimilin) are prohibited.
- Prescribed burning, timber cutting, road maintenance, and integrated pest management using biological or species-specific controls during non-roosting season are allowed, following project level analysis to determine the direct, indirect, and cumulative effects on Indiana bats and the hibernacula.
- Other activities within this buffer are allowed following determination that they will not result in a potential taking of an Indiana bat.

- FW-52 Removal of known Indiana bat active roost trees will be avoided, except as specified in the next two standards.
- FW-53 If during project implementation, active roost trees are identified, all project activity will cease within a ¼ mile buffer around the roost tree until consultation with U.S. Fish and Wildlife Service is completed to determine whether project activities can resume.
- FW-54 In the event that it becomes absolutely necessary to remove a known Indiana bat active roost tree, such a removal will be conducted during the time period when the bats are likely to be in hibernation (November 15 through March 31), through informal consultation with the U.S. Fish and Wildlife Service. Trees identified as immediate threats to public safety may be removed when bats are not hibernating; however, informal consultation with U.S. Fish and Wildlife Service is still required. Examples of immediate threats to public safety include trees leaning over a trail, public road or powerline that could fall at any time due to decay or damage.
- FW-55 Prescribed burning is allowed to maintain flight and foraging corridors in upland and riparian areas potentially used by bats in the summer. To avoid injury to non-flying young Indiana bats, prescribed burning within 2.5 miles of known active maternity roosting sites between June 1 and August 1 is prohibited.
- FW-56 Opportunities should be sought to include creation of drinking water sources for bats in project plans, where appropriate, in areas where no reliable sources of drinking water are available. Opportunities will be considered when the creation is not detrimental to other wetland-dependent species (i.e., damage to natural springs and seeps).
- FW-57 If active maternity roost sites are identified on the Forest, they will be protected with a 2.5-mile buffer defined by the maternity roost, alternate roost sites, and adjacent foraging areas.
- FW-58 No disturbance that will result in the potential taking of an Indiana bat will occur within this active maternity roost site buffer.
- Commercial timber harvesting, road construction, and use of all insecticides (are prohibited).
 - All other activities within this buffer will be evaluated during project level analysis to determine the direct, indirect, and cumulative effects on Indiana bats, through informal consultation with the U.S. Fish and Wildlife Service.
- FW-59 If during project implementation, active maternity roost sites are identified, all project activity will cease within a 2.5-mile buffer around the maternity roost until consultation with U.S. Fish and Wildlife Service is completed to determine whether project activities can resume.
- FW-60 Monitoring of timber sales and other activities will be implemented as follows:
- Timber sale administrators or biologists will conduct and report normal inspections of all timber sales to ensure that measures to protect the Indiana bat have been implemented. Timber sale administrators will conduct normal inspections of all timber sales to administer provisions for protecting residual trees not designated for cutting under provisions of the timber sale contract. Unnecessary damage to residual trees will be documented in sale inspection reports and proper contractual or legal remedies will be taken. The Forest will include this information in their annual monitoring reports and make available to the U.S. Fish and Wildlife Service, if requested.
 - Informal consultations among the U.S. Fish and Wildlife Service and the Forest will occur as needed in order to review and determine any need to modify provisions of the biological opinion, and other issues regarding the Indiana bat.
- FW-61 Where appropriate, training should be conducted for employees regarding bats in the national forests. Training should include sections on bat identification, biology, habitat requirements, and sampling techniques.

- FW-62** Develop informational and educational displays about bats to inform the public about this misunderstood group of mammals.

RARE NATURAL COMMUNITIES

- FW-63** In cooperation with the States' Natural Heritage agencies, make appropriate adjustments to Management Prescription Area 4D-Special Biological Areas through the Forest Plan amendment process as new rare community location and management information becomes available.
- FW-64** Maintain records of rare community locations and conditions across the forest. Project areas are surveyed for rare communities prior to implementing projects that have the potential to negatively affect them.

SPECIES DIVERSITY

Species within in the Species Groups highlighted below are identified in the Species Diversity Report (FEIS Appendix F).

- FW-65** When land disturbing projects are proposed in cliff, talus and large rock outcrop areas: a) identified species associated with the Cliff, Talus and Rock Outcrop Species Group will be searched for; and b) effects of the proposed project on these species will be evaluated.
- FW-66** When land disturbing projects are proposed in areas where members of the Lepidopteran Species Group occur: a) the area where the species occurs and adjacent habitat will not be treated with Dimilin, BT or other insecticides that kill lepidopterans other than gypsy moth; and b) the entire area where the species occurs will not be part of a single prescribed burn; burning will be done only in patches of the occupied habitat.
- FW-67** When land disturbing projects are proposed in areas where members of the Species Needing Occurrence Protection Species Group are likely to occur (known county, proximity to known populations, suitable habitat): a) identified species associated with this species group will be searched for; and b) effects of the proposed project on the species will be evaluated.
- FW-68** Manage the old home sites, roadsides, and old fields where members of the Ruderal Species Group are found in conditions that maintain their open character.
- FW-69** Limit collection of species identified in the Species Sensitive to Over Collection Species Group to approved scientific purpose, specifically: a) limit permission to collect these species; b) limit sharing of location information of these species; c) avoid improving access to these locations; d) evaluate seasonal closure of access to these locations; and e) evaluate relocation of access to these locations.
- FW-70** For species in the Species Sensitive to Recreational Traffic Species Group: a) provide education regarding the recreational impacts to these species; b) alert recreation users of the concerns in the area; c) avoid improving access to these locations; d) evaluate seasonal closure of access to these locations; and e) evaluate relocation of access to these locations.

CAVES

- FW-71** A minimum of 200 foot buffers are maintained around cave entrances and around areas known to open into a cave's drainage system like sinkholes, and cave collapse areas. There are no soil-disturbing activities or harvest of trees within this buffer. Wider buffers are identified through site-specific analysis when necessary to protect caves from potential subterranean and surface impacts.
- FW-72** The use of caves for disposal sites or the alteration of cave entrances is prohibited except for the construction of cave gates or similar structures to ensure closure.
- FW-73** Management activities within any area draining into a cave are limited if they may affect the cave ecosystem through sedimentation, soil sterilization, the addition of nutrients or other chemicals

- (including pesticides and fertilizers), or if they change the cave's natural hydrology or micro-climate.
- FW-74** Post and enforce seasonal closure orders around entrances of caves and abandoned mines occupied by significant populations of bats, to reduce the frequency and degree of human intrusion. Prohibit camping and campfires at the entrance to caves, mines, and rock shelters used by bats.
- FW-75** If such closure orders are found to be ineffective, construct and maintain gates or other structures that allow for entrance and egress by bats. If necessary to further discourage human disturbance to caves occupied by significant populations of bats, close non-essential public access routes controlled by the Forest Service within ¼ mile of cave entrances during periods of use by bats.
- FW-76** Human access to caves for educational and recreation use may be allowed during periods when bats are not present. If damage to a cave occurs as a result of such use, close the cave. Allow human access (i.e. scientific study) on a case-by-case basis when bats are present.
- FW-77** The specific location of a Significant Cave (as defined in the Cave Resources Protection Act) cannot be made available to the public unless it is determined that disclosure of this information would not create a substantial risk of harm, theft, or destruction of the cave. Significant and potentially significant caves on the Forest are managed in accordance with the Cave Resources Protection Act of 1988 (16 U.S.C. 4301-4309) to protect them through regulating their use, requiring permits for removal of their resources, and prohibiting destructive acts.

Vegetation, Old Growth and Forest Health

VEGETATION

- FW-78** Structural diversity may be increased through pre-commercial thinning, commercial thinning, uneven-aged management, creating canopy gaps and openings 0.25 to 2 acres in size using non-commercial cut and leave treatments, or a combination of these treatments when compatible with the desired condition and standards of the appropriate management prescription. Due to practical considerations, these treatments typically occur on slopes less than 30%, although there is no restriction on steeper slopes if feasible. Even-aged stand regeneration treatments, where desired, may occur later in the life of these stands.
- FW-79** When regenerating forest stands, regenerate to native tree species that commonly occur naturally on similar sites within that land type association.
- FW-80** To the extent practical, control threats from insects and disease in the Spruce Forest Ecological System.
- FW-81** Design all silvicultural treatments in the Spruce Forest Ecological System to maintain or restore the forest type.
- FW-82** During silvicultural treatments in all forest types, patches of live Eastern hemlock greater than ¼ acre are retained.
- FW-83** In order to maintain future restoration opportunities, do not cut live Carolina hemlock. Exceptions may be made to provide for public safety, protection of private resources, insect and disease control, or research.
- FW-84** During silvicultural treatments, retain all live butternut with more than 50% live branches. Record the approximate location of these trees and notify the Forest Silviculturist.

OLD GROWTH

FW-85 During project planning, inventory any stands proposed for timber harvest for existing old growth conditions using the criteria in Appendix B (*Guidance for Conserving and Restoring Old Growth Forest Communities on National Forests in the Southern Region* (Forestry Report R8-FR 62, June 1997)). Any stands in Old Growth Forest Types 1 (Northern Hardwood), 2a (Hemlock-Northern Hardwood), 2b (White Pine-Northern Hardwood), 2c (Spruce Northern Hardwood), 5 (Mixed Mesophytic), 10 (Hardwood Wetland Forests), 22 (Dry and Xeric Oak Forest), 24 (Xeric Pine and Pine-Oak Forest and Woodland), 28 (Eastern Riverfront) that meet the age criteria for old growth will be unsuitable for timber production, regardless of whether they meet the other criteria for existing old growth. Stands in Old Growth Forest Types 21 (Dry Mesic Oak) or 25 (Dry & Dry-Mesic Oak-Pine) may be suitable for timber harvest. Decisions to harvest these stands would be made after consideration of the contribution of identified patches to the distribution and abundance of the old growth community type and to the desired condition of the appropriate prescription during project analysis.

FOREST HEALTH

Gypsy Moth

FW-86 Integrated Pest Management is used to protect resources from damage caused by the gypsy moth.

FW-87 Suppression actions are allowed to reduce damage caused by outbreaks where gypsy moths are established as identified by the entomologists with 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.

FW-88 The development, improvement, or 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 and where indicated in specific management prescriptions.

Southern Pine Beetle

FW-89 Integrated Pest Management is used to prevent or control damage caused by the southern pine beetle.

FW-90 Use hazard rating models and silvicultural treatments to reduce risk of southern pine beetle infestation in pine forests.

Non-Native Invasive Plant Species

FW-91 The use of Category 1 Species (Regional list of species that are known to be invasive and persistent throughout all of most of their range) is prohibited.

FW-92 The establishment or encouragement of Category 2 Species (Regional list of species that are suspected to be invasive or are known to be invasive in limited areas) 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-93 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.

- FW-94** Planning for management activities includes consideration of existing and potential non-native invasive plant (NNIP) threats. Site-specific plans should include control/eradication treatments and follow up monitoring of those treatments for effectiveness. Examples include inventory and treatment of log landing and haul road sites for timber sales, fire control lines (particularly those with soil disturbance), areas near existing seed sources for prescribed burns, and trail corridors for trail construction.
- FW-95** A contractor's sources of fill, soil, shale, and related materials will be pre-approved. Contractors will submit a description of the source. The project inspector or a qualified designee will inspect the supply source. Use of the source will be prohibited if contaminated by transferable agents of invasive species.
- FW-96** Forest sources of fill, borrow or road surfacing material will be examined for NNIPs and treated as necessary to prevent transfer of invasive plants to other parts of the Forest.
- FW-97** Mechanical equipment, such as that used for logging, mowing, firefighting and earth moving (including road graders), should be free of soil, seeds, and other attached material prior to coming on the Forest or being moved from areas on the Forest with NNIP infestations to areas free from noticeable infestations. Such equipment should be examined by qualified Forest Service personnel before being allowed on the Forest.
- FW-98** Personnel treating NNIP infestations will take appropriate measures to prevent transporting seeds or other propagules to other sites. Such measures may include cleaning equipment at the treatment site after treatment, bagging the equipment until such time that it can be cleaned (e.g. hand sprayers), removing and bagging outer garments after treatment, brushing clothing and boots thoroughly before departing the treatment site.
- FW-99** Fueling or oiling of mechanical equipment will occur away from aquatic habitat.
- FW-100** When NNIP control work is conducted in areas containing TESLR plant species, those plants will be flagged, marked or identified for applicators to avoid spraying. A physical barrier will be used to protect non-target species when they occur immediately adjacent to the treatment area.

Pesticides

- FW-101** 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-102** Insecticides known to have negative impacts on aquatic ecosystems are not aerially applied within 200 feet of perennial streams, wetlands, or open bodies of water. The use of imidacloprid/insecticides for hemlock woolly adelgid may be ground applied only if: 1) they pose a low risk of soil movement and groundwater contamination; 2) only where there is enough soil and organic matter to prevent the chemical from moving; 3) in the case of soil injection, no injections deeper than the O/A horizon occur; 4) they are used at the lowest effective rate; and 5) the soil is not saturated.
- FW-103** 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 boundary 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.
- FW-104** Treatment of developed recreation areas such as picnic areas and campgrounds or dispersed areas of high concentrated use should be 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-105** 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-106** 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.

- FW-107** Areas do not undergo prescribed burning for at least 30 days after herbicide treatment.

- FW-108** Aerial application with herbicides is allowed only in utility corridors. Each aerial herbicide application must have an operations plan to ensure that:

- Adequate precautions are taken to protect the crew, including equipment certification and hazard identification;
- Areas to be aerially treated are clearly marked; and
- Methods used to avoid buffers and other sensitive areas are safe and effective.

- FW-109** No herbicide is aerially applied within 200 horizontal feet of an open road or designated trail. Buffers are clearly marked before treatment so applicators can easily see and avoid them.

- FW-110** No herbicide is aerially applied within 300 feet, nor ground-applied within 60 feet, of any known threatened, endangered, proposed, or sensitive plant, except where its use is necessary to control non-native invasive species affecting federally listed or sensitive species. Buffers are clearly marked before treatment so applicators can easily see and avoid them.

- FW-111** No herbicide is aerially applied within 200 horizontal feet, nor ground-applied within 30 horizontal feet, of lakes, wetlands, perennial or intermittent springs and streams. No herbicide is applied within 100 horizontal feet of any public or domestic water source. Selective treatments (which require added site-specific analysis and use of aquatic-labeled pesticides) may occur within these buffers only to prevent significant environmental damage such as non-native invasive plant infestations. Buffers are clearly marked before treatment, so applicators can easily see and avoid them.

- FW-112** With the exception of utility corridor and road rights-of-way, no herbicide is broadcast within 100 feet of private land or 300 feet of a private residence, unless agreed to by the landowner. Buffers are clearly marked so applicators can easily see and avoid them.

- FW-113** When applying herbicide, protect non-target vegetation, especially threatened, endangered, proposed, or sensitive plants by employing a physical barrier between them and the area being treated. The physical barrier must be sufficient to protect the non-target vegetation from herbicide drift and flow.

- FW-114** Aquifers and public water sources are identified and protected.

- FW-115** Application equipment, empty herbicide containers, clothes worn during treatment, and skin are not cleaned in open water or wells. Mixing and cleaning water must come from a public water supply and be transported in separate labeled containers.
- FW-116** Herbicide mixing, loading, or cleaning areas in the field are not located within 200 feet of private land, riparian corridors, open water or wells, or other sensitive areas.
- FW-117** Only stem-specific treatments should be done on rock outcrops or sinkholes. No soil-active herbicide with a half-life longer than 3 months should be broadcast on slopes over 45 percent or on aquifer recharge zones. Such areas should be clearly marked before treatment so applicators can easily see and avoid them.
- FW-118** Weather is monitored and the project is suspended if temperature, humidity, or wind becomes unfavorable as shown in Table 4-1.

Table 4-1. Unacceptable Weather Conditions for Herbicide Application

	Temps Higher Than	Humidity Less Than	Wind (at Target) Greater Than
Hand (cut surface)	N.A.	N.A.	N.A.
Hand (other)	98°F	20%	15 mph
Mechanical (liquid)	95°F	30%	10 mph
Mechanical (granular)	N.A.	N.A.	10 mph
Aerial (granular)	N.A.	N.A.	8 mph

- FW-119** Nozzles that produce large droplets (mean droplet size of 50 microns or larger) or streams of herbicide are used. Nozzles that produce fine droplets are used only for hand treatment where distance from nozzle to target does not exceed 8 feet.
- FW-120** Herbicides should be applied at the lowest rate effective in meeting project purposes and according to guidelines for protecting human (NRC 1983) and wildlife health (EPA 1986a). Application rate and work time should not exceed levels that pose an unacceptable level of risk to human or wildlife health. If the rate or exposure time being evaluated causes the Margin of Safety or the Hazard Quotient computed for a proposed treatment to fail to achieve the current Forest Service R-8 standard for acceptability (acceptability requires a MOS > 100 or, a HQ of ≤ 1.0 depending on the methodology employed in the risk assessment to reflect potential risk), additional risk management is to be undertaken to reduce unacceptable risks to acceptable levels or an alternative method of treatment should be used. At present the most current FS risk assessments (found on the WO website; produced for the FS by Syracuse Environmental Research Associates (SERA)) employ HQ so the standard is ≤ 1.0. Should contractor or methodology change during this planning period, an at least equally restrictive standard should be imposed to define acceptable risk.

Timber Management

SALVAGE

- FW-121** The maximum size of openings allowed for harvesting timber as a result of fire, wind, ice, snow, and insect attacks will be determined on a case-by-case basis.
- FW-122** There are no dispersion requirements for salvage treatment areas.
- FW-123** When leaving a partial forest canopy during a salvage operation resulting from a forest pest (e.g. gypsy moth or southern pine beetle), tree species susceptible to that pest should not be retained.

- FW-124** In order to favor desirable species, consider post-harvest salvage treatments on lands suitable for timber harvest with site index 70+, including:
- Installation of tree shelters on existing advanced reproduction of hardwood species.
 - Planting of hardwood species at approximately 45 feet spacing (22 trees per acre) where natural advanced reproduction is inadequate.
 - Release of trees in tree shelters from competing vegetation.

HARVESTING METHODS

- FW-125** Use advanced harvesting methods (such as cable or helicopter) on sustained slopes 35 percent or greater to avoid adverse impacts to the soil and water resources.

ROTATIONS

- FW-126** The following rotation ages are specified for lands that are suitable for timber production.

Table 4-2. Rotation Ages

Working Group	Rotation Age
Upland hardwoods	80-180
Cove hardwoods	70-180
White pine	60-100
Yellow pine	60-100
Scarlet oak/Black oak	60-100

- FW-127** Allow harvesting of trees prior to rotation age during the first cutting cycle in order to meet long-term desired condition of a particular management prescription. Regeneration harvesting cuts are not scheduled prior to culmination of mean annual increment (CMAI) as indicated in Table 4-3.

Table 4-3. Working Groups CMAI Ages

Working Group	CMAI Age
White Pine	55
Cove Hardwoods	50
Upland Hardwoods	65
Southern Yellow Pine	45

EVEN-AGED AND TWO-AGED MANAGEMENT

- FW-128** The maximum size of an opening created by even-aged or two-aged regeneration cutting is 40 acres. Exceptions to these acreage limitations may be permitted following review by the Regional Forester. These acreage limits do not apply to areas treated because of natural catastrophic conditions such as fire, insect or disease attack, or windstorm. Areas managed as permanent openings (e.g. meadows, old fields, wildlife openings, roads, and utility corridors) are not subject to these standards and are not included in calculations of opening size, even when within or adjacent to created openings.
- FW-129** Separate even-aged or two-aged harvest units from each other by a minimum distance of 330 feet (5 chains). Such openings may be clustered closer than 330 feet as long as their combined acreage does not exceed the maximum opening size. An even-aged regeneration area will no longer be considered an opening when the certified reestablished stand has reached an age of 5 years.

- FW-130 Even-aged or two-aged regeneration cutting may be scheduled next to uneven-aged stands at any time.

REGENERATION HARVESTS

- FW-131 Regeneration cutting on lands suitable for timber production must be done under a regeneration harvest method where adequate stocking of desirable species is expected to occur within 5 years after the final harvest cut. The new stand must meet the minimum stocking levels as described below. These apply to both artificial and natural means of stand regeneration. Where natural means are used and stand re-establishment has not been accomplished within 3 years after committing the stand to regeneration, the stand is re-examined for further treatment needs.

Table 4-4. Stocking Levels

Forest Type	Number of Stems Per Acre ¹		
	Minimum Level	Desired Level	Maximum Level
White Pine	150	250 - 300	500
Mixed pine-hardwood	200	400 - 600	900
Hardwoods	150	250 - 300	500
Yellow Pine	300	500 – 700	900

¹The levels are guides and are used in conjunction with professional judgment to determine acceptable restocking levels for a specific site.

- FW-132 No heavy equipment is used for site preparation on sustained slopes over 35 percent.

UNEVEN-AGED MANAGEMENT

- FW-133 Uneven-aged regeneration methods are limited to lands (except as noted below) that are at least 100 acres in size, with slopes less than 30 percent, and within ½ mile of existing roads. Uneven-aged harvest methods can occur on slopes steeper than 30 percent with low impact harvesting systems.
- FW-134 Uneven-aged regeneration methods are allowed on lands other than listed in FW-133 when site-specific project objectives include canopy gap creation, scenic enhancement, or restoration/enhancement of old growth forest conditions.
- FW-135 There are no dispersion requirements, as discussed in FW-129, for openings created by uneven-aged regeneration methods. Cutting cycles will vary from 5-20 years depending upon management objectives.
- FW-136 The maximum size limit of group selection openings is 2 acres.

NON-TIMBER FOREST PRODUCTS

- FW-137 Unless specifically designated on use permits, collection of non-timber forest products (other than fuelwood) is prohibited within 100 feet of roads and trails in order to disperse collection impacts. Cutting of dead or down trees by personal use permit for fuelwood purposes is allowed Forestwide from existing roads, except where prohibited by management prescription direction or prohibited by the use permit.

- FW-138** Collection of botanical products is subject to the following restrictions:
- Collection of threatened, endangered, sensitive or locally rare species is not permitted except for research purposes.
 - Commercial moss collection is prohibited.
 - Collection of ginseng and golden seal is prohibited.
 - Collection within 50 feet of a perennial or intermittent stream is limited to those species that cannot be feasibly collected on upland sites (i.e., no collection of *Rhododendron* is allowed within riparian areas because it can be collected on upland sites.)
 - For ground disturbing activities (transplants, root digging, etc.) a maximum of 10 plants will be allowed per permit, with no more than one permit sold to an individual per month.
 - Non-destructive collection activities (fruits, seed collection, cuttings, etc.) are allowed for species other than threatened, endangered, sensitive or locally rare species.

LOG LANDINGS AND SKID TRAILS

- FW-139** Log landings will be located outside of riparian corridors.
- FW-140** All equipment used for harvesting and hauling operations will be serviced outside of riparian corridors.
- FW-141** When necessary, landings will be ripped to a depth of 6-8 inches to break up compaction, and to ensure soil productivity and the successful reestablishment of vegetation.
- FW-142** Skid trails may cross riparian corridors at designated crossings. If crossing a perennial or intermittent stream is unavoidable, use a temporary bridge or other approved method within the State Best Management Practices (BMPs). All streams are crossed at as close to a right angle as possible. Stabilization of skid trails will occur as soon as possible to minimize soil movement downslope.
- FW-143** Skidding of trees should be directed in a manner that prevents creation of channels or gullies that concentrate water flow to adjacent streams.
- FW-144** Temporary stream crossings will be removed and rehabilitated.
- FW-145** Dips or waterbars or other dispersal methods will be constructed and maintained to direct stormwater off skid trails and reduce potential sediment flow to streams.
- FW-146** Designated trails will not be used as skid trails. Crossing of designated trails should be minimized and should occur at right angles to the extent feasible. Implement needed restorative measures to damaged trail tread and profile as soon as practicable upon completion of vegetation management activities.

Wildland Fire Management

- FW-147** When used for control lines, trails (including tread, structures and improvements) will be restored to pre-burn conditions as soon as practicable.
- FW-148** Fire control lines (whether constructed by hand or mechanically) that tie into travelways (trails, roads, etc.), will be obliterated and the topography restored to original contour as soon as possible following the fire.

WILDFIRES

- FW-149** Ensure firefighter and public safety as the first priority. Secondly, protect property and natural and cultural resources based on the relative values to be protected.)
- FW-150** Suppress human-caused wildfires (either accidental or arson).

- FW-151 The full range of suppression tactics (from full suppression to monitoring) may be used, consistent with forest and management prescription area direction.
- FW-152 Suppress wildfires at minimum cost, considering firefighter and public safety, benefits, and values to be protected, consistent with resource objectives.
- FW-153 Where needed to prevent erosion, firelines are revegetated and water-barred promptly after the fire is controlled.
- FW-154 Lightning-caused fires are allowed to play their natural ecological role as long as they occur within prescribed weather and fuel conditions and do not pose unmitigated threats to life and/or private property, particularly to that property within the wildland/urban interface zone.

PRESCRIBED FIRE

- FW-155 Use existing barriers, e.g. streams, lakes, wetlands, roads, and trails, whenever possible to reduce the need for fireline construction and to minimize resource impacts.
- FW-156 Best available smoke management practices will be used to minimize the adverse effects on public health, public safety and visibility in Class I areas (James River Face Wilderness and Shenandoah National Park) from prescribed fire.
- FW-157 Conduct prescribed burning only if meteorological conditions ensure that smoke will be carried away from areas with a high forecasted Air Quality Index (Orange or higher).
- FW-158 All managed burns will comply with Smoke Management Programs for Virginia and West Virginia, when these are implemented. (Per EPA's "Interim Air Quality Policy on Wildland and Prescribed Fires" which was developed with involvement of the USDA Forest Service).
- FW-159 Identify caves or abandoned mines that contain significant populations of bats as smoke-sensitive targets. Avoid smoke entering these caves or mines when bats are hibernating (generally this is Nov 1 to April 1).
- FW-160 Only conduct prescribed fires when weather and fuel conditions are within parameters established in Regional and Forest direction.
- FW-161 Do not plan prescribed fires in mesic deciduous forest communities (northern hardwood, mixed mesophytic, and river floodplain hardwood) that do not contain a significant oak component. When practical and without resulting in increased fireline construction or jeopardizing firefighter safety, avoid burning these communities when implementing prescribed fires in adjacent forest communities.
- FW-162 When necessary to include mesic deciduous forest communities within burning blocks, direct firing will not be done unless necessary to secure control lines. In these cases, allow low intensity fires. Exceptions are allowed when the fire is designed to encourage oak regeneration.
- FW-163 Maintain and restore table mountain pine and pitch pine forests through prescribed fires that are moderate to high intensity with moderate severity fires.

OTHER FUELS TREATMENT

- FW-164 Only mowing, chopping, or shearing treatments are used on sustained slopes over 15 percent. No heavy equipment is used for mechanical fuels treatments on sustained slopes over 35 percent.

Recreation

DEVELOPED RECREATION

- FW-165** New campsites and restrooms will be located outside of the 100-year floodplain. When replacing or rehabilitating existing facilities, consider the feasibility of relocation outside of the floodplain.
- FW-166** As appropriate for the ROS class and development scale, post applicable public safety and resource protection messages on-site. Examples of messages include Flash Flood Hazard, Bear Aware and/or Safe Camping in Bear Country, Boating Safety, Swimming Safety, Don't Move Firewood (emerald ash borer), and Stop Aquatic Hitchhikers.

TRAILS

- FW-167** The Appalachian National Scenic Trail standards are addressed in the standards for Management Prescription Area 4A.
- FW-168** Trails are closed to motorized recreation use unless designated otherwise.
- FW-169** 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-170** Any new trail construction or reconstruction is carefully located to avoid impacts to threatened, endangered, sensitive, or locally rare species habitat, cultural resources, and to be physically and environmentally sustainable.
- FW-171** 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 trail closure, avoidance and reclamation; and timing of project implementation to reduce impacts during high use periods.
- FW-172** 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. Trail could be permanently closed if necessary.

RECREATION OPPORTUNITY SPECTRUM

- FW-173** Maintain existing 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.

OFF-HIGHWAY VEHICLES (OHVs) AND ALL-TERRAIN VEHICLES (ATVs)

- FW-174** ATV trail systems are managed under Management Prescription 7C.
- FW-175** OHV use on open public roads is limited to licensed vehicles and operators that comply with motor vehicle laws of the state.
- FW-176** The national forest's Motor Vehicle Use Map (MVUM) contains a list of the types of vehicles allowed on each designated road, trail and area and any seasonal restrictions that apply on those routes and in those areas.
- FW-177** ATVs are restricted to routes (roads and trails) specifically designated as open to such vehicles.
- FW-178** Cross-country motorized use, off open and designated roads and trails, is prohibited except in the case of emergency, e.g. wildland fire or search and rescue.
- FW-179** Improving and expanding existing ATV trails is given priority consideration over designating new areas.

- FW-180** ATV routes are preferred that can provide a two-hour or longer riding experience and that have looping characteristics or are a part of a larger transportation system.

WILD & SCENIC RIVER MANAGEMENT

See Management Prescription Areas 2C2 and 2C3. Segment A of St. Mary's River (see Appendix D) lies within the St. Mary's Wilderness and is eligible for the National Wild and Scenic River System as a wild river. This segment is allocated to management prescription area 1A-Wilderness since this prescription protects the qualifying characteristics of a wild river.

Scenery

- FW-181** The Scenery Management System guides protection and enhancement of scenery on the George Washington National Forest. The Scenic Class inventory (including Landscape Visibility, Concern Level, and Scenic Attractiveness) is maintained, refined, and updated as a result of site specific project analysis. The Standards under each management prescription area refer to Scenic Class inventory as updated.
- FW-182** The Forest Scenic Integrity Objectives (SIOs) are met for all new projects (including special uses). Existing conditions may not currently meet the assigned SIO.
- FW-183** Lands mapped as Concern Level 1 middleground from travelways (see Glossary) and use areas will be inventoried as Scenic Class 2 or higher and will be managed for an SIO of Moderate or higher.
- FW-184** Shape and orient vegetative management openings in the forest canopy to contours and existing vegetation patterns to blend with existing landscape characteristics. Shape and feather edges in High and Moderate SIO areas. Some edges may not need feathering to meet the SIO. Do not use geometric shapes.
- FW-185** Apply leave tree and unit markings to not be visible within 100 feet of Concern Level 1 and 2 travelways and use areas.
- FW-186** Remove, burn, chip or lop slash when visible within a 100-foot zone of Concern Level 1 & 2 travelways and use areas. These treatments result in an average slash height of 2 feet of the ground.
- FW-187** Design and construct roads to blend with the desired landscape character in form, line, color and texture.
- FW-188** During temporary or permanent road construction, eliminate or remove from view, slash and root wads as viewed from the immediate foreground of High and Moderate SIO viewing platforms to the extent possible. Some slash may be aligned parallel to roads at the base of fill slopes to collect silt.
- FW-189** During vegetative management activities, remove or place out of sight root wads and other unnecessary debris within 150 feet of key observation points on Concern Level 1 and 2 travelways and use areas.
- FW-190** Locate log landings, roads and bladed skid trails out of view to avoid bare mineral soil observation from Concern Level 1 travel routes and viewing platforms.
- FW-191** Exclude gravel pits and borrow areas from the foreground of Concern Level 1 travelways and use areas.
- FW-192** In Very High and High SIO areas, accomplish mowing or bush hogging as soon as practicable following plant mortality resulting from roadside herbicide treatment.
- FW-193** Structures have finishes that reduce contrast with the desired landscape character.

- FW-194** Selectively remove trees where outstanding views can be revealed at high use areas, vista points, and along interpretive trails.
- FW-195** During vegetative management activities, when consistent with other objectives, favor flowering and other visually attractive trees and understory shrubs when leaving vegetation.
- FW-196** Favor 14 inch and larger trees in a mixture with other smaller sized tree stems when creating spatial diversity along travelways and in recreation use areas. Provide a range of tree diameters.
- FW-197** When engaged in scenery enhancement activities, introduce or favor native wildflowers, shrubs, trees with showy flowers, fall foliage, and fruits.
- FW-198** Within the landscape's historic range of variability, prescribed fire is allowed to mimic natural wildfires to restore a historic landscape character that includes a mosaic of closed and open canopy forest, open woodlands, and grasslands/shrublands. Elements that are not natural appearing and that would not be evident following a natural wildfire, such as constructed firelines and wood piles or other residue remaining from fire preparation:
- do not remain visually evident for more than one year in areas with Scenic Integrity Objectives (SIOs) of Very High and High;
 - may remain visually evident but appear as minor disturbances that are subordinate to the valued landscape scenery within three years in areas with a SIO of Moderate; and
 - may remain visually evident in areas with a SIO of Low, but appear as a moderate alteration to the valued landscape scenery by borrowing from line, form, color, texture, pattern or other attributes found in similar land types outside of the scenery being viewed.

Cultural Resources

- FW-199** Coordinate inventory, evaluation, nomination, protection, enhancement, and interpretation procedures with the appropriate State Historic Preservation Officer (SHPO), Advisory Council on Historic Preservation (ACHP), and Tribal Historic Preservation Officer (THPO) as necessary before project decisions.
- FW-200** Projects are designed to avoid, minimize, or mitigate negative effects on potentially significant cultural resources. In-place protection of identified sites is the minimum requirement until site significance is determined.
- FW-201** Evaluations are scheduled and conducted if a project would have any effect on a cultural resource potentially eligible for the National Register of Historic Places. Evaluations are scheduled and conducted if the responsible official and State Heritage Preservation Office (SHPO) disagree on whether a heritage resource is potentially eligible for the National Register of Historic Places.
- FW-202** Decision documents (Record of Decision, Decision Notice or Decision Memo) will evidence compliance with the NHPA, 36 CFR 800, and other cultural resource-related federal laws and regulations, as appropriate. A project (or undertaking) not in compliance will be suspended by the Forest Supervisor until compliance is documented.
- FW-203** A consultation with the SHPO is in order when it is determined that the project would affect an eligible site, and the project cannot be relocated or modified to avoid the site.
- FW-204** Consultation will include, when necessary, federally recognized Native American Indian tribes with geographic or cultural ties to the Forest, pursuant to provision in the Archeological Resources Protection Act (ARPA), National Historic Preservation Act (NHPA), American Indian Religious Freedom Act (AIRFA), and the Native American Graves Protection and Repatriation Act (NAGPRA). Forest Heritage staff will develop mechanisms for consultation. Provide for traditional use or collection of forest resources by Native American Indians pursuant to provision in the Food, Conservation and Energy Act of 2008.
- FW-205** A Section 106 Memorandum of Agreement (MOA) will be negotiated with the SHPO, ACHP, and federally recognized Native American Indian Tribes with ancestral connections to the area and

- implemented in those situations where a cultural resource that is eligible for or included in the National Register of Historic Places cannot be avoided and will be adversely affected by a proposed project per 36 CFR 800.5 and 36 CFR 800.6.
- FW-206** Ensure that Section 106 compliance clauses are inserted in contracts and sales documents, and those clauses are discussed in pre-work conferences.
- FW-207** If additional evidence or information regarding a “not significant” property becomes available, it will be re-evaluated.

Rangeland Resources

- FW-208** Where rangeland facilities or practices are identified as contributing to the degradation of water quality, aquatic species, scenic resources, rare communities, or federally listed or sensitive species habitat, remedial actions may include changes in management strategy, alteration, temporary closure, relocation, or discontinuance of the permit.

Minerals and Geologic Resources

GEOLOGIC RESOURCES

- FW-209** Locate and design facilities and management activities to avoid, minimize, or mitigate negative effects on geologic resources with identified values (scientific, scenic, paleontological, ecological, recreational, drinking water, etc.).
- FW-210** Identify, using the appropriate type and scale of geologic mapping, the geologic components (processes, structures, materials, and landforms) relevant to proposed projects, and integrate the components into: 1) siting and design of the project; 2) restoration; 3) ecological sustainability; and 4) environmental analysis.
- FW-211** Locate and design projects to minimize potential adverse effects on groundwater and groundwater dependent ecosystems. In karst areas, integrate geologic assessment in project design and monitoring.

GEOLOGIC HAZARDS

- FW-212** Locate, design, and maintain trails, roads, other facilities, and management activities to avoid, minimize, or mitigate geologic hazards and potential impact on infrastructure and public safety. Site characterization prior to ground disturbance on slope gradients of 40% or greater will: 1) identify existing geologic slope stability conditions; 2) evaluate how construction would alter the existing conditions; and 3) assess potential for slope failures (from cut slopes, fill slopes, disposal sites for excess excavation, and sidecast material). For ground-disturbing projects on slope gradients of 40% or greater located upslope and within one-half mile of Forest external boundary, consider a geologic hazard and risk assessment of off-Forest public safety for landslides, including debris flows.

FEDERAL LEASABLE MINERALS - GENERAL

- FW-213** Following exploration and production operations, the permittee is responsible for reclaiming disturbed sites in accordance with an approved reclamation plan. Reclamation shall meet the requirements of 36 CFR 228. Plans will consider opportunities to enhance the desired condition of the particular management prescription.

FEDERAL LEASABLE MINERALS - OIL AND GAS

- FW-214** Lands that are available for leasing (existing leased lands or lands that become available in the future) are available under standard lease terms and conditions, unless additional stipulation(s) are specified by the individual management prescription or by the decision on lands administratively available for oil and gas leasing.
- FW-215** Operations will comply with environmental protection standards from several sources: Forest Plan standards for the management prescription where the operations will occur; lease terms and conditions; federal Onshore Oil and Gas Orders; Oil and Gas Resources regulations (36 CFR228 E); Conditions of Approval in Applications for Permits to Drill; and Federal and State regulations to protect soil, surface water, groundwater, riparian, and aquatic resources and to reclaim areas affected by oil and gas activities.
- FW-216** The Forest Service will only approve Surface Use Plans of Operations associated with Applications for Permit to Drill that contain the following provisions:
- 1) Water will not be withdrawn from surface water or groundwater sources on the Forest unless a qualified Forest Service employee determines that this withdrawal will result in less overall environmental impacts than the impacts of not withdrawing the water;
 - 2) Only closed loop systems will be used for hydraulic fracturing;
 - 3) Drill cuttings will be removed from the drill site and disposed of at approved sites off the Forest, unless authorized by a qualified Forest Service employee;
 - 4) Secondary containment infrastructure will be used at the site to reduce impacts from stormflow or spills;
 - 5) No surface disposal of flowback water or produced waters will be allowed on National Forest System lands;
 - 6) Non-native invasive species occurring at the site of new openings constructed in association with drilling activities will be treated as long as the well is under lease.
- FW-217** Generally pipelines associated with development of natural gas resources will be constructed within road corridors.

FEDERAL LEASABLE MINERALS - OTHER THAN OIL AND GAS

- FW-218** When not specifically noted in the individual management prescription as congressionally withdrawn or administratively unavailable, other Federal leasable minerals are available.

FEDERAL LEASABLE MINERALS - COAL

- FW-219** Operations will follow Federal and State regulations to protect soil, surface water, groundwater, riparian, and aquatic resources and values; and to reclaim areas affected by mining activities.

MINERAL MATERIALS

- FW-220** Mineral materials (36 CFR 228c) are available for commercial, personal, free, and administrative uses.

ROCK, MINERAL, AND FOSSIL COLLECTION

- FW-221** Except for archaeological sites, caves, or in Wilderness, the public can collect small quantities of rocks, minerals, and invertebrate fossils for non-commercial purposes (scientific, educational, and recreational, including recreational gold panning). If such activities would involve motorized excavation equipment or significant disturbance, then a Permit would be required. Collecting for commercial purposes requires a Permit.

RESERVED AND OUTSTANDING MINERALS

- FW-222** The exercise of outstanding rights shall be in accordance with terms of the deed of separation, as well as applicable State and Federal laws and regulations.
- FW-223** The exercise of reserved rights shall be in accordance with the deed, the Secretary of Agriculture's rules and regulations within the deed, and applicable State and Federal laws.
- FW-224** The Forest Plan, including management prescriptions and forestwide direction, is subject to outstanding and reserved mineral rights. Priorities to acquire private mineral rights through purchase, exchange or donation are in the following areas: designated Wilderness; designated Wild and Scenic Rivers; and Special Biological Areas. Until such private rights are acquired, the exercise of reserved and outstanding mineral rights to explore and develop mineral resources will be respected.
- FW-225** All projects (including special designations, grants and agreements, special uses, and interagency agreements) or consideration of special designations shall include a review of the status of private mineral rights. Where private rights could be negatively affected, the public involvement process will inform and seek comments from the current owners of private mineral rights. The potential effects on private mineral rights will be assessed.
- FW-226** Where reserved or outstanding mineral rights are involved, the mineral owner is encouraged to implement all surface-disturbing activities outside riparian areas.

Infrastructure**FACILITIES, ROADS AND ACCESS**

- FW-227** All existing open roads and trails should remain open for public travel unless any of the following occurs:
- Use causes unacceptable resource damage;
 - The road or trail is unsafe for public use;
 - Use conflicts with management prescription or forestwide direction;
 - Closures or restrictions are needed to meet other resource needs;
 - Funds are insufficient and are expected to remain insufficient for the foreseeable future to maintain the road or trail to meet standards commensurate with Objective Maintenance Level;
 - Low use makes it an impractical or unreasonable investment for continued maintenance; or
 - Public right-of-way does not exist.
- FW-228** New construction of local roads is managed as closed to public use unless the following conditions are met:
- Use is compatible with the recreation opportunity for the area;
 - Public safety is provided for;
 - Road serves an identified public need;
 - The area accessed by the road and associated uses can be managed in accordance with management prescription and forestwide direction considering available financial and personnel resources; or
 - Funds are available for maintenance, or cost-sharing or volunteer maintenance can be arranged.
- FW-229** Roads are seasonally or temporarily closed to motorized public use if there is a temporary or recurring need to:
- Prevent unacceptable resource damage;
 - Prevent conflicts with the recreational opportunity established for the area;
 - Protect property or public safety during resource management activities;

- The facility serves a seasonal or temporary management objective; or
- Reduce the need for additional maintenance associated with damage to the roadbed and/or surface that might occur during adverse weather or seasonal conditions.

ROAD CONSTRUCTION

- FW-230** Roads are designed and constructed to the standard necessary to provide access and manage resources according to management prescription desired conditions and public safety.
- FW-231** Revegetate during seeding seasons on construction sites where slopes are greater than 5%.
- FW-232** All new and reconstructed roads will blend into the landscape to the extent practical.

ROAD MAINTENANCE

- FW-233** Maintenance, reconstruction to a higher standard, or relocation of an existing road is allowed to reduce environmental damage, to improve user safety, or where agreed, to be turned over to the State.
- FW-234** Apply the level of maintenance needed to protect the investment, facilitate resource management, and provide for user safety.

ROAD DECOMMISSIONING

- FW-235** Closed system roads are planted with native or desirable non-native wildflowers, forbs, shrubs, and/or grasses.
- FW-236** Closed system roads and wildlife linear strips may continue to be used for administrative and emergency access.

FACILITIES

- FW-237** Design and maintain facilities to incorporate the principles of sustainability, reflect their place within the natural and cultural landscape, and provide optimal service to customers and cooperators.
- FW-238** Before old buildings and other man-made structures are structurally modified or demolished, they will be surveyed for bats. If significant bat roosting is found, maintain these structures or provide alternate roosts suitable for the species and colony size prior to building modification or destruction.

Lands and Special Uses

SPECIAL USE AUTHORIZATIONS

- FW-239** Evaluate new special use authorizations using the criteria outlined in 36 CFR 251.54 and according to Forest Service policy. Limit to needs that cannot be reasonably met on non-NFS lands or that enhance programs and activities. Locate uses where they minimize the need for additional designated sites and best serve their intended purpose. Require joint use on land when feasible.
- FW-240** Do not allow recreation residences.
- FW-241** Do not authorize new individual well/spring permits. Phase out existing uses when possible, as this is usually a need that can be met on private land.
- FW-242** During evaluation of any proposals for wind energy development, the most current U.S. Fish and Wildlife Service land-based wind energy guidelines will be used to assess impacts to threatened or endangered species.

LINEAR RIGHTS-OF-WAY AND COMMUNICATION SITES

- FW-243** Develop and use existing corridors and sites to their greatest potential in order to reduce the need for additional commitment of lands for these uses. When feasible, expansion of existing corridors and sites is preferable to designating new sites.
- FW-244** Following evaluation of the above criteria, decisions for new authorizations outside of existing corridors and designated communication sites will include an amendment to the Forest Plan designating them as Management Prescription Area 5B or 5C.
- FW-245** Design new towers and ridge top developments to mitigate collision impacts to migratory birds through coordination of project planning and implementation with the U.S. Fish and Wildlife Service.
- FW-246** Locate new communications equipment on existing towers or other structures where possible. Where new tower construction is unavoidable, structures will use minimum safety lights required by the Federal Aviation Administration, daytime visual markers on guy wires, and down-shielded security lighting. At sites that do not currently have towers in excess of 199 feet or those that require lighting, height of new towers will not exceed 199 feet above ground level and/or exceed the height at which the FAA requires that the tower has lighting.
- FW-247** Require holders of communication use authorizations to remove communications towers no longer in use or determined to be obsolete.
- FW-248** Specify management requirements for permittee access roads in the designated use permit, where roads are included in the authorization.
- FW-249** Place distribution lines for utilities underground, unless the environmental impacts of doing so exceed those of placing them above ground.

LAND ADJUSTMENT

- FW-250** Land acquisitions will be guided by the following criteria:

Priority Acquisitions: (in order of priority)

1. Lands needed for the protection of federally listed endangered or threatened fish, wildlife, or plant species.
2. Lands needed for the protection of significant historical or cultural resources, when these resources are threatened or when management may be enhanced by public ownership.
3. Lands within congressionally-designated wilderness boundaries.
4. Lands that provide an unbroken public right-of-way for the Appalachian National Scenic Trail consistent with the current policy statement for Appalachian Trail acquisition.
5. Lands needed for protection and management of congressionally-designated areas, including wilderness.
6. Environmentally sensitive lands such as rare communities, wetlands and old growth.
7. Lands that promote more effective management of the ecosystem and reduce administrative expenses through consolidation of national forest system ownership.
8. Lands that enhance recreation opportunities, public access, and protection of aesthetic values.
9. Lands needed to enhance or protect watershed improvements that affect the management of national forest riparian areas.
10. Consolidation of split estates.

- FW-251 When compatible, manage new land acquisitions according to the adjacent or surrounding management prescription(s). When not compatible, conduct an environmental analysis and prepare the appropriate decision document to amend the Forest Plan.
- FW-252 Land conveyances will be guided by the following criteria.
1. Lands inside or adjacent to communities or intensively developed private land, and chiefly valuable for non-National Forest System purposes.
 2. Parcels that will serve a greater public need in state, county, city, or other Federal agency ownership.
 3. Inaccessible parcels isolated from other National Forest System lands. Parcels intermingled with private lands.
 4. Parcels within major blocks of private land, the use of which is substantially for non-National Forest System purpose.
 5. To support more efficient management, parcels having boundaries, or portions of boundaries, with inefficient configurations (projecting necks or long, narrow strips of land, etc.)
 6. Parcels that have substantial structural improvements that are authorized under a special use permit/lease if overall goals and objectives can be met.

RIGHT-OF-WAY ACQUISITION

- FW-253 Access should be acquired through purchase or exchange from other agencies, states, counties, and private interests to assure management objectives are met for all ownerships.

Safety

- FW-254 Any commercial operator proposing to work under the following Forest Service issued authorizations or approvals (concessionaire permit, timber contract, range allotment, Surface Use Plan of Operation under an Application for Permit to Drill, special use permit) must, upon request, provide information about materials proposed to be brought onto, stored on, or left on National Forest System lands. This information would include Material Safety Data Sheets (MSDS) as well as identification of materials marked, labeled or placarded in accordance with the U. S. Department of Transportation's Hazardous Materials Regulations (49 CFR Parts 171 through 180). This requirement does not apply to building materials (such as wood, stone or asphalt) or fuel. Permittees are required to maintain Material Safety Data Sheets (MSDS) for any hazardous materials on site. For material exceeding 1,000 gallons (or equivalent volume) in quantity, the permittee must also identify the proposed routes for entry and egress from the National Forest.

Implementation

- FW-255 Project decisions made before the effective date of this plan (pursuant to the 1993 Revised Plan, as amended) that are not fully implemented before the effective date of this plan, shall adhere to the management requirements established in their original decision documents and the standards outlined in the 1993 Revised Plan, as amended. Project decisions made after the effective date of this plan shall adhere to the standards outlined in this plan.

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MANAGEMENT PRESCRIPTION AREAS

1A - DESIGNATED WILDERNESS

There are six congressionally-designated Wildernesses that lie wholly within the GWNF. The small portions of Barbours Creek and Shawvers Run Wildernesses that lie within the GWNF are managed under the Final Revised Jefferson Forest Plan. The existing Wildernesses on the Forest total about 43,000 acres.

Table 4-5. Wilderness within the GWNF

Name	Acres	Year of Designation
Priest	5,963	2000
Ramseys Draft	6,518	1984
Rich Hole	6,450	1988
Rough Mountain	9,300	1988
Saint Mary's	9,835	1984
Three Ridges	4,608	2000
Barbours Creek	20 (5,382 acres total; 5,362 acres are on Jefferson NF)	1988
Shawvers Run	95 (5,686 acres total; 5,591 acres are on Jefferson NF)	1988

EMPHASIS

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

The Wilderness Act of 1964 describes wilderness as "an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. Wilderness is an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed to preserve its natural conditions. Wilderness generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable. It has outstanding opportunities for solitude or a primitive and unconfined type of recreation. It has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition. And, it may also contain ecological, geological, or other features of scientific, educational, scenic, or historic value."

DESIRED CONDITIONS FOR 1A - DESIGNATED WILDERNESS

DC 1A-01: These areas retain a natural evolving landscape character shaped primarily by natural processes. These landscapes feature a structurally diverse older aged forest community with a continuous forested canopy, with the exception of gaps created by storms, insects, diseases, or fire. The valued character of these landscapes is intact with no deviations.

DC 1A-02: By the year 2064, visibility will return to natural conditions as mandated by EPA's Regional Haze Regulation and Clean Air Act Amendments of 1977. Land managers interact with regional consortia of states (e.g. Visibility Improvement States and Tribal Association of the Southeast) to improve visibility conditions. Visibility improves incrementally during this planning period as the Regional Haze Regulation is implemented (US EPA, 1997).

DC 1A-03: Natural processes will result in a large patch of late successional to old growth forest matrix. Rare communities and associated species will continue to exist. Natural disturbance events, such as insects and diseases, ice storms, and fire, play a major role in shaping future species composition and successional stages

across these areas. Non-native vegetation occurs only as transients and is not self-perpetuating. Cavity trees, cull trees, standing dead trees, and down logs are common throughout the area as a result of natural mortality.

DC 1A-04: Species associated with area-sensitive mid- to late-successional forest habitats are expected to inhabit this area. Management of the area is focused on protecting and preserving the natural environment from human influences. Timber harvest is not appropriate within this prescription area. Fire may be used to restore and maintain a historic fire regime as well as reduce the risks and consequences of wildland fire escaping from the area. Integrated pest management favoring biological controls may be used to eradicate or suppress non-native invasive pests. Non-commercial felling of trees with hand tools may be used to construct and maintain trails.

DC 1A-05: Recreation management is designed to provide solitude and remoteness in the most primitive and natural recreation setting possible. To this end, access to the area is limited. Trailheads at surrounding roads are designed with sensitivity to scale and character to set the tone for experiencing a primitive recreation experience. Once in the designated wilderness, visitors on foot or horseback must rely, to varying degrees, on their own personal physical abilities and primitive recreation skills. Wilderness recreation includes inherent risks. Visitors are isolated from the sights and sounds of others and encounters with other visitors are rare. Travel within wilderness is strictly non-motorized.

DC 1A-06: The Saint Mary's River and its tributaries are of sufficient quality to support the biota native to the streams. Until the impacts of acid deposition are negligible, the interim desired condition is that the pH and alkalinity of the streams are managed to reflect the natural conditions that would support the native biota.

DC 1A-07: Most visitor information is dispensed outside of the wilderness at trailheads and through off-site public information and education efforts. Wilderness visitors are encouraged to "pack-it-in and pack-it-out" and to "leave no trace." Wilderness trails lie lightly on the land, typically narrow footpaths or horse trails with minimum directional signing that blends well with the natural surroundings. Visitors are physically challenged as they ford streams and climb over downed trees.

DC 1A-08: Very few facilities are provided. Permanent human-made shelters may be present if they existed prior to wilderness designation, particularly along the Appalachian National Scenic Trail. Construction of new shelters on new sites within wilderness is not appropriate, unless there is an obvious and overriding need to protect the natural resources from visitor impacts. Structures including signs, bridges, waterbars, and constructed water sources for the comfort or convenience of visitors in wilderness are minimal. The few structures appearing in wilderness are generally for the protection of resources or were present prior to wilderness designation.

DC 1A-09: The Federal Government owns the lands within the boundaries of designated wilderness areas, both surface and subsurface, with no encumbrances.

STANDARDS FOR 1A - DESIGNATED WILDERNESS

General

1A-001 With the exception of wheelchairs, motorized transport and mechanized equipment are not allowed, except in emergencies. All such uses during emergencies require advance approval. See specific exceptions in the standards under Law Enforcement, Recreation 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 appropriate line officer 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 appropriate line officer authorization.

Vegetation and Forest Health

- 1A-006 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-007 Use control measures that have the least adverse impact on the wilderness resource. Favor biological control methods.
- 1A-008 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-009 Eradicate non-native invasive plants when the infestations are isolated. Use hand-applied pesticides, with appropriate line officer approval, when necessary.

Timber Management

- 1A-010 These lands are classified as withdrawn from timber production. Timber harvest is not allowed.

Non-timber Forest Products

- 1A-011 Do not issue authorizations for the commercial use of any forest products.
- 1A-012 Allow personal-use collection of dead and down wood only for on-site campfire use.
- 1A-013 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 Management

- 1A-014 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.
- 1A-015 Wildland fire is allowed and managed to restore and maintain natural communities, to reduce a buildup of fuels to an acceptable level, and to decrease the risks and consequences of wildland fire escaping from wilderness.

- 1A-016 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. Revegetation work will use plant species native to the wilderness area.

Recreation

- 1A-017 Wilderness areas are managed for the Primitive Recreation Opportunity Spectrum (ROS) class although the inventoried ROS classes may range from Semi-Primitive Non-Motorized (SPNM) to Roaded Natural (RN).
- 1A-018 Construct, relocate, and maintain trails to the minimum standard necessary for protection of soil, water, vegetation, visual quality, user safety, and long-term maintenance. Trails are located to appear as part of the wilderness environment and not an intrusion upon it.
- 1A-019 Blazing of trails is allowed only on the Appalachian Trail.
- 1A-020 Use of hand-held power tools, like chainsaws, to reopen trails following catastrophic natural events may be authorized by the appropriate line officer.
- 1A-021 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-022 Provide the minimum number of signs for the regulation or information of the user and the protection of the wilderness resource. Do not include distances to destination points on trail signs or directional arrows within the wilderness. Encourage use of trail maps.
- 1A-023 Groups entering the wilderness will not exceed 10 persons.

Appalachian National Scenic Trail

- 1A-024 Plan and carry out activities in cooperation with appropriate Appalachian Trail management partners.
- 1A-025 Horses and pack stock are prohibited on the Appalachian Trail footpath.
- 1A-026 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-027 Management activities such as trail construction, maintenance, and signing are designed to meet a Very High Scenic Integrity Objective.
- 1A-028 Non-historical remnants such as old railroad ties and culverts causing unacceptable visual impact are removed.

Range

- 1A-029 Livestock grazing is not permitted unless specifically authorized in the designating legislation.

Minerals

- 1A-030 These areas are withdrawn from Federal oil and gas and other Federal mineral leases.
- 1A-031 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-032 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 forestwide standards under Lands).

Roads

- 1A-033 Do not permit road construction and reconstruction, subject to valid existing rights or leases.
- 1A-034 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-035 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-036 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.
- 1A-037 Limit the size of commercial and organized groups to 10.
- 1A-038 These areas are unavailable for wind energy development.

Research and Monitoring

- 1A-039 Evaluate research proposals and scientific studies for which use of a wilderness is essential. Allow research that is compatible with wilderness management objectives.
- 1A-040 Allow collection of specimen plants for research with appropriate line officer authorization.

Law Enforcement and Search and Rescue

- 1A-041 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-042 Require appropriate line officer 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 AREAS

The areas that are recommended to Congress for wilderness study include two new areas and four additions to existing Wilderness that includes the following areas (as mapped): Little River (9,500 acres), Beech Lick Knob (5,700 acres), Rich Hole Addition (4,600 acres), Ramseys Draft Addition (6,100 acres), Rough Mountain Addition (1,000 acres), and Saint Mary's-West Addition (300 acres). The recommended wilderness study areas total about 27,000 acres. Where the boundary of one of these areas is coincident with a road, the boundary will be managed as a line 300 feet offset from state roads and 100 feet offset from Forest Roads to allow for road maintenance activities.

EMPHASIS

Pending legislation as to their classification, these areas are managed to protect the qualities that were the basis for recommending wilderness study, while also providing for existing uses where compatible with protecting wilderness character.

DESIRED CONDITIONS FOR 1B - RECOMMENDED WILDERNESS STUDY AREAS

DC 1B-01: Retain the remote natural evolving landscape character shaped primarily by natural processes. These landscapes feature a structurally diverse older aged forest community with a continuous forested canopy, with the exception of gaps created by storms, insects or disease. The forest includes fire-adapted communities.

DC 1B-02: Non-motorized recreation opportunities continue to be enjoyed, with an emphasis on retaining semi-primitive settings. Existing roads, trails, and wildlife improvements can be maintained using current practices. New facilities are not allowed. The area is a priority for road and facility decommissioning and soil and water improvements. Timber harvest is not appropriate within this prescription area.

STANDARDS FOR 1B - RECOMMENDED WILDERNESS STUDY AREAS

General

1B-001 Allow motorized equipment for the purpose of meeting prescription area objectives and removal of man-made elements not compatible with wilderness character prior to congressional designation as Wilderness.

Terrestrial and Aquatic Species

1B-002 Existing old fields, pastoral areas, wildlife openings, and other wildlife habitat improvements may be maintained. Expansion of existing openings and creation of new openings are not allowed.

Vegetation and Forest Health

1B-003 Allow control of insect and disease outbreaks when necessary to prevent a threat to adjacent property, to protect the scenic and recreational values, to reduce hazards to visitors, or for safety and legal reasons. When actions are needed, first consider biological controls, secondly hand-control methods, and finally pesticides. Utilize the least ecologically disruptive technique that will accomplish control of the pest.

1B-004 Tree cutting may occur incidental to other management activities such as trail construction, trail maintenance, removal of hazard trees, fireline construction, etc. Mechanical equipment such as chainsaws is permitted.

Timber Management

1B-005 These areas are classified as unsuitable for timber production.

Non-timber Forest Products

1B-006 Do not issue authorizations for the commercial use of any forest products.

1B-007 Allow personal-use collection of dead and down wood only for on-site campfire use.

1B-008 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 Management

1B-009 Allow rehabilitation of firelines and the burned area to prevent an unacceptable loss of future wilderness resources or to protect resources outside the area. Revegetation work will use plant species native to the area. Evidence of firelines is obliterated as soon as practicable.

1B-010 Wildfires and prescribed fires 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. With prescribed fires the use of natural fire breaks such as streams, roads, and bare areas is encouraged to minimize fireline construction.

Recreation

1B-011 Decommissioning of facilities that are not compatible with a wilderness designation is a priority.

1B-012 Recommended wilderness study areas are managed for the Primitive Recreation Opportunity Spectrum (ROS) class although inventoried ROS classes may range from Semi-Primitive Non-Motorized (SPNM) to Roded Natural (RN).

1B-013 Construct, relocate, and maintain trails to the minimum standard necessary for protection of soil, water, vegetation, visual quality, user safety, and long-term maintenance. Emphasize trails that appear to be part of a wilderness environment and not an intrusion upon it.

1B-014 Minimize use of trail bridges or foot logs. Bridges are not installed for user convenience. Construct bridges if necessary for 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.

1B-015 Use of bicycles on existing trails can continue. Trails may be maintained but will not be improved to facilitate bicycle use.

Minerals

1B-016 These areas are not suitable for federal oil and gas and other federal mineral leases, pending final congressional action.

1B-017 These areas are not available for mineral materials for commercial, personal, or free use purposes. Administrative use of mineral materials is allowed.

1B-018 Requests for access to a non-Federal interest in lands pursuant to a reserved or outstanding right are recognized, and reasonable access is granted.

Scenery

- 1B-019 Management activities such as trail construction, maintenance, and signing are designed to meet or exceed a High Scenic Integrity Objective in all scenic classes.

Roads

- 1B-020 Do not permit road construction and reconstruction, subject to valid existing rights or leases.
- 1B-021 Roads are a priority for decommissioning.
- 1B-022 Existing roads can be maintained at their current level.

Lands and Special Uses

- 1B-023 These areas are not available for new special uses, except for research and outfitter-guide operations allowed under the Wilderness Act. Phase out existing long-term non-conforming uses.
- 1B-024 Allow commercial use by outfitters and guides if compatible with preservation of the wilderness values. Require outfitters and guides to use leave-no-trace techniques.
- 1B-025 These areas are unavailable for wind energy development.

2C2 - ELIGIBLE SCENIC RIVERS

About 55 miles are eligible for the National Wild and Scenic River System under the scenic river designation. Scenic rivers have corridor widths of one-quarter mile on each side of the river. For river segments that are eligible for designation, their outstandingly remarkable values and free flowing conditions that made them eligible are maintained (FEIS Appendix D). The eligible portions of these rivers and the one-quarter mile wide corridors on each side are managed to meet the requirements of the Wild and Scenic Rivers Act of 1968. The corridors of these eligible scenic rivers total about 2,000 acres on the Forest.

As described in the Act, a scenic river is a river or section of river that is "free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads."

Table 4-6. Eligible Scenic Rivers

Segment A of Back Creek
Cedar Creek
Segment B of Jackson River
Segment C of Jackson River
Segment B of North River
Segment B of Tye River

EMPHASIS

The primary emphasis of these rivers and their associated corridors is to protect and enhance the outstandingly remarkable scenic and geologic values as well as perpetuate the undeveloped setting and non-motorized access that led to the "scenic" classification. These river segments will be preserved in a free-flowing condition for the benefit, use, and enjoyment of present and future generations.

DESIRED CONDITIONS FOR 2C2 - ELIGIBLE SCENIC RIVERS

DC 2C2-01: Eligible river segments and their immediate environments are managed to preserve free-flowing conditions and to protect the outstanding values of the segments: scenic, recreation, geologic, fish and wildlife, historic, cultural, and similar values that made them eligible. Until designation decisions are made or other river studies are conducted, National Forest System lands associated with each eligible river corridors are managed to perpetuate or enhance each river's current conditions. Characteristics of the rivers and their corridors are not reduced below the standards for classification as a Scenic River.

DC 2C2-02: The river and a one-quarter mile corridor on each side exist in a natural to near-natural setting and possess outstanding scenic quality. These areas retain a natural evolving landscape character shaped primarily by natural processes. The valued character of these landscapes is intact with no deviations. The characteristic landscape is that of continuous forest cover of predominantly hardwood species. Occasional small openings in the forest exist. The terrain is generally steep adjacent to the river, however some areas do possess a wide, flat river valley. Intermittent and perennial streams flow unobstructed from the side slopes into the river.

DC 2C2-03: The river and its channel are not modified except for fisheries habitat improvements. Dams or other structures that impede the flow of the river are prohibited. Some activities related to management of riparian dependent resources or wildlife habitat activities may be evident. The river user is aware that man's past activities have changed the original character of the river and its surrounding landscape only in selected areas and for short stretches. Most users are not offended by these sights.

DC 2C2-04: Recreation use on the river and within the corridor is not concentrated, and visitors have the opportunity to experience some solitude and enjoy the primitive character of the surrounding landscape. Opportunities for wildlife viewing are good. In some areas the hydrologic processes over time have exposed geologic features. Water-based recreation activities such as swimming, wading, fishing, canoeing, rafting, and

kayaking occur in the rivers. The use of motor powered boats may be permitted in designated areas. Land-based recreation activities include hunting, hiking, horseback riding, and other activities that do not disturb the serenity of the area.

DC 2C2-05: Access to scenic river segments is provided at select locations. Emphasis on facilities is on health, safety, and resource protection plus some degree of user convenience. Roads, trails, and dispersed campsites are managed to discourage impacts to lakes, streams, and fragile soil resources.

DC 2C2-06: Lands within scenic river corridors are classified unsuitable for timber production.

DC 2C2-07: 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 perpetuate the scenic integrity of the area.

DC 2C2-08: Signs are designed to complement the natural environment in scale, character, and color. Most visitor information is provided outside of the scenic river corridor at trailheads and through off-site public information and education efforts. Scenic river visitors are encouraged to "pack-it-in and pack-it-out" and to "leave no trace."

DC 2C2-09: Wildland fires may be used to restore and maintain the historic fire regime. Integrated pest management favoring biological controls may be used to eradicate or suppress non-native invasive pests. Non-commercial felling of trees may be used to construct and maintain trails.

STANDARDS FOR 2C2 - ELIGIBLE SCENIC RIVERS

General

2C2-001 All management activities within this corridor must be compatible with the outstandingly remarkable values for the river.

Water, Soil, and Air

2C2-002 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.

2C2-003 Instrumentation necessary for monitoring reference watershed conditions is allowed. Such instrumentation is designed to be unnoticeable to visitors.

Terrestrial and Aquatic Species

2C2-004 Existing old fields, wildlife openings, and other habitat improvements for fish and wildlife are maintained when they enhance the outstanding scenic values of the river corridor. New permanent wildlife openings are not created.

2C2-005 Allow stocking only to reestablish or maintain indigenous, threatened, endangered, or sensitive species with Forest Supervisor authorization.

Vegetation and Forest Health

2C2-006 Suppression and eradication actions to control gypsy moth infestations are allowed.

2C2-007 Actions to eradicate or suppress hemlock woolly adelgid infestations are allowed.

2C2-008 Eradicate non-native invasive plants when the infestations are isolated. Use hand-applied pesticides, with Forest Supervisor approval, when necessary.

2C2-009 Felling and leaving of individual trees is allowed for public safety and trail maintenance within appropriate trail clearing limits.

2C2-010 Allow vegetation management activities to:

- Maintain or enhance outstandingly remarkable values of the river corridor;
- Enhance or rehabilitate scenery;
- Provide for public health and safety.

Timber Management

2C2-011 These lands are classified as unsuitable for timber production. Timber harvest is not allowed unless associated with reasonable access to valid existing rights.

Non-timber Forest Products

2C2-012 Do not issue authorizations for the commercial or personal use of any forest products.

Wildland Fire Management

2C2-013 Vegetation management may be accomplished with wildfires and prescribed fire along with mechanical treatments as an appropriate method of reducing costs associated with these activities.

Scenery

2C2-014 Management activities are designed to meet or exceed a High Scenic Integrity Objective in all scenic classes.

Recreation

2C2-015 Eligible Scenic River corridors are managed with a range of recreation opportunities from roaded natural to semi-primitive motorized and semi-primitive non-motorized.

2C2-016 These corridors are unsuitable for designation of new All-Terrain Vehicle routes or use areas.

2C2-017 Restore existing trails, including steps and bridges, using native materials and Civilian Conservation Corps construction techniques.

2C2-018 Provide the minimum number of signs for the regulation or information of the user and the protection of the scenic values.

Minerals

2C2-019 These areas are suitable for federal oil and gas leasing with a “no surface occupancy” stipulation 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.

2C2-020 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.

Roads

2C2-021 Road construction is not allowed, subject to valid existing rights.

Lands and Special Uses

2C2-022 These areas are unsuitable for designation of new utility corridors, utility rights-of-way, communication sites or wind energy development. Existing uses may continue unless removal is necessary to protect the outstandingly remarkable values of the river.

2C3 - ELIGIBLE RECREATIONAL RIVERS

The following rivers are eligible for the National Wild and Scenic River System under the recreational river designation. There are approximately 200 miles that qualify as recreational rivers. Recreational rivers have corridor widths of one-quarter mile on each side of the river. For river segments that are eligible for designation, their outstandingly remarkable values and free flowing conditions that made them eligible are maintained (FEIS Appendix D). The eligible portions of these rivers and the one-quarter mile wide corridors on each side are managed to meet the requirements of the Wild and Scenic Rivers Act of 1968. The corridors of these eligible recreational rivers total about 4,000 acres on the Forest.

As described in the Act, recreational rivers are rivers or sections of river that are "readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past."

Table 4-7. Eligible Recreational Rivers

Segment B of Back Creek
Segments A & B of Cowpasture River
Segment C of Passage Creek
Segment D of Jackson River
North Fork of Shenandoah River
South Fork of Shenandoah River

EMPHASIS

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

DESIRED CONDITIONS FOR 2C3 - ELIGIBLE RECREATIONAL RIVERS

DC 2C3-01: The primary emphasis for management of the river and river corridor is to protect and enhance the outstandingly remarkable values of that river or river segment. The recreational river corridor provides outstanding opportunities for people to enjoy a wide variety of river-oriented recreation opportunities in an attractive setting. The river is readily accessible by roads and may be accessed by railroads as well. Transportation facilities may parallel the river for long stretches.

DC 2C3-02: There is a low need for visitors to rely on their personal physical abilities and primitive recreation skills within these areas. The sights and sounds of other visitors are evident, and opportunities to encounter other visitors are moderate to high. Visitors seeking solitude may find that difficult to achieve, particularly in peak use seasons. Trails may be highly developed, including hardened trails for a high level of accessibility for persons of all abilities.

DC 2C3-03: The landscape character ranges from natural appearing to transitional-mixed use. There is substantial evidence of human activity along the shores of these rivers on adjoining private lands, sometimes including modern residential development, commercial structures, and a full range of various agricultural and forestry uses. On National Forest System lands, visitors enjoy a natural-appearing setting with a range of man-made recreational developments. Prescribed fire, felling and removal of trees, domestic livestock grazing, and integrated pest management activities may be observed. Utility transmission corridors, communication facilities, or signs of mineral development activity associated with reserved and outstanding mineral rights may be observed as well as controlled mineral activities under lease and use of mineral materials. The goal is to blend these uses into the background so that they remain visually subordinate to the natural landscape. Existing scenic integrity may range from High to Very Low, but the objectives on National Forest System lands are Moderate or higher.

DC 2C3-04: Since there is the potential for large numbers of visitors at peak use seasons, regulations are necessary for protection of resources and visitors. Information is provided at bulletin boards or kiosks at the river, as well as at off-site Forest Service visitor centers and in brochures. Visitors are encouraged to practice minimum impact techniques while recreating. Trash receptacles may be provided at parking areas and high use areas. Facilities of a modern nature are present to provide for visitor safety and comfort and to protect the river resources. Facilities are designed to fit the character of the specific sites where they are located. This could range from semi-primitive to rural. Facilities might include parking areas, trailheads, bulletin boards, interpretive kiosks, signs, restrooms, canoe/raft launches, fishing platforms, picnic sites, etc.

DC 2C3-05: These areas are characterized by a predominance of mid- and late-successional forests with a high to intermediate tolerance to shade. Forest structure varies according to ecological factors, but largely consists of a mature overstory of hardwoods, occasionally mixed with pines, a fairly open midstory, and a well-developed herbaceous and shrubby understory. Structural diversity within mixed mesophytic and dry-to-mesic oak forest communities may be enhanced through commercial and non-commercial vegetation management activities. Understory vegetation includes a variety of native deciduous and evergreen flowering trees, shrubs and wildflowers. Even- and uneven-aged forest communities are managed throughout the area, along with continued development of medium and small patches of late successional to old growth forest communities. Wildlife viewing opportunities are maintained and expanded and up to four percent of forested land may be in early successional forest conditions created both naturally and purposefully when compatible with the outstandingly remarkable values of the river corridor. Management activities and controls ensure rare communities and associated species continue to exist in the area.

STANDARDS FOR 2C3 - ELIGIBLE RECREATIONAL RIVERS

General

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

Terrestrial and Aquatic Species

2C3-002 Allow creation of up to four percent early successional forest habitat.

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

Vegetation and Forest Health

2C3-004 Allow salvage of dead, dying, or damaged trees to maintain or enhance outstandingly remarkable values.

2C3-005 Allow vegetation management activities to:

- Maintain or enhance outstandingly remarkable values of the river corridor;
- Enhance or rehabilitate scenery;
- Maintain developed recreation facilities, including roads and trails;
- Enhance both game and non-game wildlife habitat;
- Improve threatened, endangered, sensitive, and locally rare species habitat;
- Maintain rare communities and species dependent on disturbance;
- Maintain, enhance, or restore the diversity and complexity of native vegetation;
- Suppress or control insect and disease outbreaks;
- Control non-native invasive vegetation;
- Reduce fuel buildups; or
- Provide for public health and safety.

2C3-006 Aggressively control insect and disease outbreaks when threatening the outstandingly remarkable values of the river corridor or when needed for safety or legal reasons. Consider eradication of recently established non-native pests. Favor the most effective control method.

Timber Management

2C3-007 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.

Wildland Fire Management

2C3-008 Wildfires are generally managed to minimize acreage burned due to high levels of public use and infrastructure investments in these corridors.

2C3-009 Vegetation management may be accomplished with wildfires and prescribed fire along with mechanical treatments as an appropriate method of reducing costs associated with these activities.

Recreation

2C3-010 These corridors are unsuitable for designation of new All-Terrain Vehicle routes or use areas.

Scenery

2C3-011 Management activities are designed to meet or exceed the following Scenic Integrity Objectives:

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

H=High; M=Moderate

Minerals

2C3-012 These corridors are suitable for federal oil and gas leasing with a “no surface occupancy” stipulation to protect the outstandingly remarkable resources of the river. Other Federal minerals may be available on a case-by-case basis.

2C3-013 Permit mineral materials for commercial, personal, free, and administrative use purposes with conditions to protect the outstandingly remarkable resources of the river corridor.

2C3-014 Some of these areas are underlain by private mineral rights. Requests for access to a non-Federal interest in lands pursuant to a reserved or outstanding right are recognized, and reasonable access is granted. Encourage such interests to protect outstandingly remarkable values when possible.

Roads

2C3-015 Allow road construction or reconstruction to improve recreational access, improve soil and water, to salvage timber, or to protect property or public safety.

2C3-016 Decommission roads that are causing environmental damage, degrading outstandingly remarkable values, or needed to manage visitor use and access.

Lands and Special Uses

- 2C3-017 These areas may be suitable for new utility structures, such as new transmission, gas, or water lines, only in the location with the least impacts to scenic integrity.
- 2C3-018 Screen overhead utility lines and support towers.
- 2C3-019 Allow other special uses when consistent and compatible with protection of the outstandingly remarkable values of the river corridor.
- 2C3-020 These areas are unavailable for wind energy development.

4A - APPALACHIAN NATIONAL SCENIC TRAIL CORRIDOR

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

This prescription area consists of those lands mapped as the foreground area visible from the Appalachian National Scenic Trail footpath, and as designated on a case-by-case basis associated trail shelters, overnight use sites, viewpoints, water sources and spur trails. This prescription area also includes all National Forest System lands acquired by the National Park Service for the Appalachian Trail and administratively transferred to the USDA Forest Service by the National Park Service under a Memorandum of Agreement. The Appalachian National Scenic Trail Corridor on the GWNF is a total of about 9,000 acres.

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

EMPHASIS

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

DESIRED CONDITIONS FOR 4A - APPALACHIAN NATIONAL SCENIC TRAIL CORRIDOR

DC 4A-01: The Appalachian Trail is a way, continuous from Katahdin in Maine to Springer Mountain, Georgia that traverses the George Washington National Forest for travel on foot through the wild, scenic, wooded, pastoral, and culturally significant lands of the Appalachian Mountains. The Appalachian Trail is usually a simple footpath, purposeful in direction and concept, favoring the heights of land, and located for minimum reliance on construction for protecting the resource. The body of the Trail is provided by the lands it traverses, and its soul is in the living stewardship of the volunteers and workers of the Appalachian Trail community.

DC 4A-02: Views from the Appalachian Trail are predominantly forested, sporadically intermixed with meadows, old fields, pastoral valleys, and cultural landscapes. Occasionally, the Appalachian Trail traverses high elevation balds and openings, which afford hikers unique and outstanding views. The Appalachian Trail offers a diversity of topography and a variety of vegetation and animal life, exposing the hiker to the entire range of land forms, water features, history, and uses of the land that are found along the Appalachian Mountains.

DC 4A-03: The prescription area consists of those lands mapped as foreground from the Appalachian Trail footpath and designated viewpoints, shelters, campsites, water sources, and spur trails linking these features, utilizing the Scenery Management System. The prescription area has a minimum width of 100 feet on either side of the Appalachian Trail footpath for protection from social, aural, and other impacts, but this minimum width should be considered only when the foreground zone does not extend beyond 100 feet on either side of the Appalachian Trail footpath.

DC 4A-04: Facilities include the Appalachian Trail footpath itself, shelters approximately one day's hike apart, designated overnight-use sites, privies, trailhead parking areas, and information boards at road crossings. The footpath itself wears lightly on the land, and is designed, constructed, and maintained for foot travel only. Associated structures are in harmony with the surrounding environment.

DC 4A-05: This prescription area traverses a range of Recreation Opportunity Spectrum classes. Management of the Appalachian Trail setting will either be consistent with or complement the semi-primitive non-motorized Recreation Opportunity Spectrum class. The linear nature of this prescription area is recognized in determining the Recreation Opportunity Spectrum class.

DC 4A-06: Recreation management is designed to provide a variety of opportunities in the most primitive and natural recreation setting possible. Careful acquisition and trail design has allowed an appearance of a more primitive setting than the Recreation Opportunity Spectrum would predict. Trailheads are designed with sensitivity to scale and character to set the tone for a non-motorized experience. Motorized recreation, bicycles, horses, and pack stock are not allowed on the Appalachian Trail footpath; although there are some rare exceptions (see Standards). Roads within one-half mile of the Appalachian Trail are managed with hiker security, safety, and Appalachian Trail values in mind.

DC 4A-07: Roads, utility transmission corridors, communication facilities, or signs of mineral development activity exist or may be seen within the prescription area, although the goal is to avoid these types of facilities and land uses to the greatest extent possible and blend facilities which cannot be avoided into the landscape so that they remain visually subordinate.

DC 4A-08: This prescription area retains a natural, forested or pastoral landscape character shaped by both natural processes and humans. Management practices are modified to recognize the nationally significant aesthetic and recreational values of these lands. Low intensity vegetation management is appropriate to maintain the long-term goals and stewardship objectives of the Appalachian National Scenic Trail prescription area. Management activities needed to preserve or create vistas and desirable open areas are a high priority. Activities are planned and carried out in cooperation with appropriate Appalachian Trail management partners.

DC 4A-09: This prescription area is characterized by a predominance of mid- and late-successional forests with multiple canopy layers, which provide a variety of habitat niches, and thermal and protective cover for wildlife. Small to medium patches of old growth forest communities continue to develop throughout this area. Existing levels of early successional habitat conditions are maintained including: meadows, old fields, and openings created by flooding, wind damage, wildland fire, insect/disease infestations, or vegetation management activities. Occasional large openings of early successional habitat may be maintained as old fields and pastoral landscapes, as well as created through natural disturbance.

STANDARDS FOR 4A - APPALACHIAN NATIONAL SCENIC TRAIL CORRIDOR

Terrestrial and Aquatic Species

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

Vegetation and Forest Health

- 4A-003 Vegetation is managed only to enhance the Trail environment. Allow timber harvest, prescribed burning, wildfire, hand tools, power tools, mowing, herbicides, biological controls, and grazing to manage vegetation as appropriate. Vegetation management activities are limited to:
- Maintain open areas, old field habitats and vistas, and create new vistas, that enhance the scenic qualities of the Appalachian Trail;
 - Control insects and diseases;
 - Maintain or improve threatened, endangered, sensitive, and locally rare species habitat;
 - Maintain rare communities, species dependent on disturbance, and wildlife viewing opportunities;
 - Meet trail construction and maintenance needs, including shelters;
 - Manage fuels;
 - Restore, enhance, or mimic historic fire regimes;
 - Control non-native invasive vegetation;
 - Provide for public safety or resource protection.

Timber Management

- 4A-004 The lands in this prescription area are classified as unsuitable for timber production.
- 4A-005 Hauling or skidding along the Appalachian Trail footpath itself or using the Appalachian Trail for landings or temporary roads is prohibited. Hauling and skidding within the prescription area will be allowed only if the environmental analysis indicates that this is the only feasible and prudent alternative.

Wildland Fire Management

- 4A-006 Suppression strategies will strive to minimize impact on Appalachian Trail values and implement Minimum Impact Suppression Techniques (MIST) tactics whenever possible.
- 4A-007 Prohibit heavy equipment line construction on the Appalachian Trail footpath, unless necessary for emergency protection of property and safety.
- 4A-008 Implement restorative measures in areas damaged by fire suppression efforts after fire suppression efforts have ceased.

Recreation

- 4A-009 Motorized, horse, pack stock, and bicycle use on the Appalachian Trail are prohibited. Exceptions include where the Appalachian Trail crosses or is located on open Forest Service system roads; other federal, state, county or other public roads or as needed for management of the Appalachian Trail; or for administrative or emergency purposes.
- 4A-010 Other uses within the prescription area, including crossings of the Appalachian Trail, may be considered following coordination with appropriate Appalachian Trail partners. Locate authorized uses crossing the Appalachian Trail to minimize impacts to the Appalachian Trail environment, preferably where impacts already exist.
- 4A-011 Overnight camping will be allowed, unless prohibited by Forest Supervisor's order.
- 4A-012 Identify the Appalachian Trail through standard signs and blazes.
- 4A-013 Locate and maintain shelters, campsites, and privies where there is a demonstrated need for overnight use.

- 4A-014 Reconstruct or relocate existing portions of the Appalachian Trail as needed to enhance the recreation experience, protect threatened, endangered, sensitive, and locally rare species; protect the health of the ecosystem; or protect cultural resources. Such relocations provide a reasonable level of public safety.
- 4A-015 Limit additional development to facilities compatible with the Appalachian Trail.
- 4A-016 This area is unsuitable for designation of new All-Terrain Vehicle use areas.

Scenery

- 4A-017 All management activities will meet or exceed a Scenic Integrity Objective of High.

Minerals

- 4A-018 The prescription area is suitable for oil and gas leasing with a “no surface occupancy” stipulation. The area is not available for other Federal leasable minerals.
- 4A-019 These areas are not available for mineral materials.

Roads

- 4A-020 Authorize new roads within the Appalachian Trail prescription area only if entering the prescription area is the only feasible and prudent location.

Lands and Special Uses

- 4A-021 Issue non-recreational special-use authorizations only where compatible with Appalachian Trail management or where there is a demonstrated public need or benefit and where no other reasonable alternatives exist.
- 4A-022 Authorize recreational special uses only when they do not adversely affect Appalachian Trail values and resources as described by this management prescription. Limit recreation events such as foot races or horseback endurance events to designated crossings only. Only temporary authorizations of one year or less for use of the footpath are allowed due to the probability of changing trail conditions or management needs except for existing permits. Existing permits may be renewed when there is no proposed change in use, or changes in trail conditions or management needs. Permits will not be issued for overnight camping at Appalachian Trail shelters or within 300 feet of the footpath.
- 4A-023 Do not authorize vendor or peddler permits.
- 4A-024 Allow agricultural special-use authorizations to maintain open and pastoral spaces.
- 4A-025 Locate new public utilities and rights-of-way in areas of this management prescription area where major impacts already exist. Limit linear utilities and rights-of-way to a single crossing of the prescription area, per project.
- 4A-026 Require mitigation measures including screening, feathering, and other visual management techniques to mitigate visual and other impacts of new or upgraded utility rights-of-way. Mitigation measures apply to facilities as well as vegetation.
- 4A-027 This management prescription area is unsuitable for special-use authorizations for new communication sites and wind generation sites.

- 4A-028 Management actions will generally discourage activities that would degrade the Trail's natural and cultural resources or social values, such as use by groups or organizations involved in promotion, sponsorship, or participation in spectator events or competitive activities, or by groups which by their size or commercial interest generate use which is inconsistent with the concept of a simple footpath.

Additional Direction

- 4A-029 The following standards will apply to the portion of the Appalachian National Scenic Trail Corridor that passes through the Three Sisters Remote Backcountry Area as displayed in Appendix I.

Timber may be cut, sold, or removed if one of the following circumstances exists. The cutting, sale, or removal of timber in these areas is expected to be infrequent.

- (1) The cutting, sale, or removal of generally small diameter timber is needed for one of the following purposes and will maintain or improve one or more of the remote area characteristics:
 - (i) To improve threatened, endangered, proposed, or sensitive species habitat; or
 - (ii) To maintain or restore the characteristics of ecosystem composition and structure, such as to reduce the risk of uncharacteristic wildfire effects, within the range of variability that would be expected to occur under natural disturbance regimes of the current climatic period;
- (2) The cutting, sale, or removal of timber is incidental to the implementation of a management activity not otherwise prohibited; or
- (3) The cutting, sale, or removal of timber is needed and appropriate for personal or administrative use.

Roads may not be constructed or reconstructed unless:

- (1) A road is needed to protect public health and safety in cases of an imminent threat of flood, fire, or other catastrophic event that, without intervention, would cause the loss of life or property;
- (2) A road is needed to conduct a response action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or to conduct a natural resource restoration action under CERCLA, Section 311 of the Clean Water Act, or the Oil Pollution Act;
- (3) A road is needed pursuant to reserved or outstanding rights, or as provided for by statute or treaty;
- (4) Road realignment is needed to prevent irreparable resource damage that arises from the design, location, use, or deterioration of a system road that cannot be mitigated by road maintenance. Road realignment may occur under this paragraph only if the road is deemed essential for public or private access, natural resource management, or public health and safety;
- (5) Road reconstruction is needed to implement a road safety improvement project on a system road determined to be hazardous on the basis of accident experience or accident potential on that road;
- (6) The appropriate decision-maker determines that a Federal Aid Highway project, authorized pursuant to Title 23 of the United States Code, is in the public interest or is consistent with the purposes for which the land was reserved or acquired and no other reasonable and prudent alternative exists; or
- (7) A road is needed in conjunction with the continuation, extension, or renewal of a mineral lease on lands that are under lease or for a new lease issued immediately upon expiration of an existing lease. Such road construction or reconstruction must be

conducted in a manner that minimizes effects on surface resources, prevents unnecessary or unreasonable surface disturbance, and complies with all applicable lease requirements, land and resource management plan direction, regulations, and laws. Roads constructed or reconstructed pursuant to this paragraph must be obliterated when no longer needed for the purposes of the lease or upon termination or expiration of the lease, whichever is sooner.

4B - LITTLE LAUREL RUN RESEARCH NATURAL AREA

Research Natural Areas (RNAs) are part of a national network of ecological resources designated for research, education and maintenance of biological diversity on National Forest System lands. These areas are designated by the Regional Forester, U.S. Forest Service. Research Natural Areas are principally for non-manipulative research, observation, and study.

The Little Laurel Run Research Natural Area (2,092 acres) was established in 1938 and is located on the North River Ranger District. The Ramseys Draft Research Natural Area (1,794 acres) was established in 1935 and is wholly within the Ramseys Draft Wilderness. Therefore, management within the Ramseys Draft RNA is superseded by management direction for wilderness areas.

EMPHASIS

Manage for scientific research in an undisturbed state as a baseline for comparison with other forest environments.

DESIRED CONDITIONS FOR 4B - LITTLE LAUREL RUN RNA

DC 4B-01: The RNA and its ecosystems continue to furnish ecological information of value to the Forest Service and society at large. The area continues to be representative of the ecosystems it was established to represent. The landscape character will be natural evolving. Human uses are not causing detectable ecological change.

DC 4B-02: Species which occur in vegetation types influenced by natural environmental and ecological processes predominate. Visitors to a Research Natural Area can expect to see examples of the natural plant communities native to that physiographic region.

DC 4B-03: Vegetation is influenced by natural processes. The lands are classified as unsuitable for timber production.

STANDARDS FOR 4B - LITTLE LAUREL RUN RNA

Vegetation and Forest Health

4B-001 Native forest insect and disease outbreaks are controlled only to protect threatened, endangered, and sensitive species or to prevent unacceptable damage to resources on adjacent land. Non-native invasive insects and diseases may be eradicated or suppressed. Favor biological control methods.

4B-002 Eradicate non-native invasive plants when the infestations are isolated. Use hand-applied pesticides, with Forest Supervisor approval, when necessary.

Timber Management

4B-003 These lands are classified as unsuitable for timber production. No timber harvest shall be allowed, except as may be necessary in the control of fire, insects, and diseases; or to provide for public safety and trail access.

Non-timber Forest Products

4B-004 Do not permit the collection of non-timber forest products, except for scientific purposes as permitted by the Forest Supervisor.

Wildland Fire Management

4B-005 Wildfires and prescribed fire are allowed to restore and maintain the prescription area emphasis.

Recreation

4B-006 These areas are unsuitable for designation of new All-Terrain Vehicle use areas.

Scenery

4B-007 Management activities are designed to meet a Very High Scenic Integrity Objective.

Minerals

4B-008 Little Laurel Run RNA is not suitable for federal oil and gas leasing. Because Ramseys Draft RNA occurs within an existing wilderness, it is not legally available for federal oil and gas leasing or other Federal minerals.

4B-009 These areas are not available for mineral materials for commercial, personal, or free use purposes.

Roads

4B-010 Roads that do not contribute to the objective of preserving the natural ecosystem and not needed for protection of the area are closed and allowed to naturally revegetate. Other measures, such as seeding or planting, may be used if conditions warrant.

4B-011 Road construction is not normally permitted inside the area.

Lands and Special Uses

4B-012 These areas are unsuitable for designation of new utility corridors, utility rights-of-way, or communication sites or wind energy development.

4B-013 Special uses consistent with the Chief's establishment report could occur.

4C1 - GEOLOGIC AREAS

Two areas of the Forest are identified as Geologic Areas for their unique geological resources: Devils Garden (75 acres) on the Lee Ranger District and Rainbow Rocks (100 acres) on the James River Ranger District. In addition, nineteen cave sites are identified. One of the cave sites is in wilderness, two sites are located in Special Biological Areas, two sites are within the Indiana bat protection areas, and the rest are in this management prescription area. The total acreage of this management prescription area is about 3,000 acres.

EMPHASIS

Geologic Areas are managed to highlight and protect unique geologic resources as well as to develop public understanding of, and appreciation for, the influence of geology on the ecology and human history. Management focus is on protection of these sensitive areas and on showcasing the unique and scenic geologic resources.

DESIRED CONDITIONS FOR 4C1 - GEOLOGIC AREAS

DC 4C1-01: Sensitive karst areas are protected from human-caused detrimental hydrologic and habitat change. Recreational access through these areas may be limited in order to protect geologic resources. Geologic Areas provide outstanding opportunities for people to learn about the natural history of the Forest. Safe, barrier-free public access by road and trail may be provided and is designed to protect sensitive geologic resources. Where public access is unrestricted, interpretive information is available to develop understanding of the importance of protecting the geologic and biological communities of the area.

DC 4C1-02: Natural processes will eventually result in small to medium patches of 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 FOR 4C1 - GEOLOGIC AREAS

Water, Soil, and Air

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

Terrestrial and Aquatic Species

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

Vegetation and Forest Health

4C1-003 Native forest insect and disease outbreaks are controlled only to prevent unacceptable damage to resources on adjacent land or to protect threatened, endangered, and sensitive species. Non-native invasive insects and diseases may be eradicated or suppressed. Favor biological control methods.

4C1-004 Eradicate non-native invasive vegetation when the infestations are isolated. Use hand-applied pesticides, with Forest Supervisor approval, when necessary.

- 4C1-005 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.

Wildland Fire Management

- 4C1-008 Conduct prescribed fire and wildfire management 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 All-Terrain Vehicle routes or use areas.

Scenery

- 4C1-012 Management activities are designed to meet or exceed a High Scenic Integrity Objective.

Minerals

- 4C1-013 These areas are suitable for federal oil and gas leasing with a “no surface occupancy” stipulation 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 Private mineral rights exist. Roads, wells, and other necessary infrastructure associated with these leases and rights are allowed. Requests for access to a non-Federal interest in lands pursuant to a reserved or outstanding right are recognized and reasonable access is granted. Encourage such interests to avoid rare communities and minimize surface disturbances.

Roads

- 4C1-016 Do not permit road construction, subject to valid existing rights and leases.
- 4C1-017 Road reconstruction and minor relocation are permitted after full consideration of effects on geologic resources and ecological values.

Lands and Special Uses

- 4C1-018 Locate new public utilities and rights-of-way to areas of this prescription area where major impacts already exist. Limit linear utilities and rights-of-way to a single crossing of the prescription area, per project.
- 4C1-019 Require mitigation measures including screening, feathering, and other visual management techniques to mitigate visual and other impacts of new or upgraded utility rights-of-way. Mitigation measures apply to facilities as well as vegetation.
- 4C1-020 These areas are unavailable for wind energy development.

4D - BOTANICAL-ZOOLOGICAL AREAS (SPECIAL BIOLOGICAL AREAS)

Biological Areas are managed to include lands that support key components and concentrations of the Forest's biological diversity. These lands serve as core areas for conservation of the most significant and rarer elements of biological diversity identified to date on the Forest. These areas or communities are assemblages of plants and animals that occupy a small portion of the landscape, but contribute significantly to biological diversity.

These areas typically include high quality ecological communities such as high elevation mountain tops, shale barrens, caves and karst features, wetlands, and diverse habitat for threatened and endangered species, sensitive and locally rare species. These lands contain individual threatened, endangered, or rare natural communities found within major forest communities.

There are a total of about 121,000 acres of land identified as Special Biological Areas. This includes about 58,000 acres of Cow Knob Salamander habitat (management prescription area 8E7). Of the remaining 63,000 acres shown in Table 4-8, about 10,000 acres are within Wilderness, Recommended Wilderness, National Scenic Areas, or Indiana bat Primary Protection Areas. Approximately 53,000 acres are displayed on the Forest Plan map in this Special Biological Area Management Prescription; however, the size of an individual area may range from one acre to about 18,000 acres.

EMPHASIS

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

DESIRED CONDITIONS FOR 4D – SPECIAL BIOLOGICAL AREAS

DC 4D-01: Botanical-Zoological areas are managed for the following: (1) protection of threatened, endangered, sensitive, or locally rare species from human taking or human-caused detrimental habitat changes; (2) stable or increasing populations of threatened, endangered, sensitive, or locally rare species; and (3) functioning ecosystems.

DC 4D-02: The natural evolving or natural appearing landscape character of these areas exhibits a variety of forested and non-forested communities frequently associated with disturbance like fire. Late successional to old growth forest communities may exist in some of these areas and additional acres will develop in future years. Ideally, natural processes within these areas proceed unencumbered by such disturbances as fire suppression, adjacent human development, and influx of non-native species. Prescribed fire, wildlife habitat improvements, integrated pest management, and occasional low intensity timber harvest may be appropriate management tools to maintain the long-term goals of the desired conditions in these areas related to the improvement of threatened, endangered, sensitive, and locally rare species habitat. Specific management activities necessary to maintain, restore, or enhance threatened, endangered, sensitive, and locally rare species for each special biological area are described in the Virginia Department of Conservation and Recreation, Division of Natural Heritage, Reports of Special Biological Areas and other pertinent biological reference material.

DC 4D-03: These management activities will result in a forest successional stage appropriate for maintaining the threatened, endangered, sensitive, and locally rare species. All areas are protected from human-caused detrimental habitat change, the taking of threatened or endangered species, and the collection of living plants or animals unless such collections are used for achieving the stated management goals. Recreational access through these areas may be limited in order to protect natural cultural resources. Where public access is unrestricted, interpretive information is available to develop understanding of the importance of protecting the plant and animal communities of the area.

DC 4D-04: Access to these areas may be limited. New roads are managed as closed. New trail sections to link existing trails or for education and interpretation are considered on a case-by-case basis. Recreation

opportunities are limited to interpretation, bird watching, wildlife viewing, nature photography, and use of non-motorized trails.

DC 4D-05: Some of these special biological areas lie within the foreground of the Appalachian National Scenic Trail. Within the foreground of the Appalachian Trail, management practices are designed to achieve the desired condition of this management prescription as well as protect the Appalachian Trail experience, strengthen the role of volunteers and volunteer organizations, provide opportunities for high quality outdoor recreation experiences, and provide for the conservation and enjoyment of the nationally significant scenic, historic, natural and cultural qualities of the land through which the Appalachian Trail passes.

DC 4D-06: These sites can be nominated for placement on State registries of natural areas. These voluntary agreements recognize the protection and management of natural areas that support rare species and significant natural communities.

STANDARDS FOR 4D – SPECIAL BIOLOGICAL AREAS

General

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

Terrestrial and Aquatic Species

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

4D-003 Existing openings or old fields are only maintained or created if they are compatible with the rare community.

4D-004 Control measures such as exclosures or trapping may be used where animal populations are adversely affecting rare communities.

4D-005 Beaver ponds and associated wetlands are managed in association with threatened, endangered, sensitive, and locally rare species. These areas are protected as rare communities when they support significant populations of these species or otherwise on a case-by-case basis. Other beaver populations and dams may be managed to: prevent adverse effects to public safety; roads, trails, and other facilities; private land resources; and other rare communities. Where protection of beaver ponds and associated wetlands are in conflict with other resource needs, decisions consider the beavers' role in natural processes and are based on the relative rarity of the communities and associated species involved, with the rarest elements receiving priority.

Vegetation and Forest Health

4D-006 Native forest insect and disease outbreaks are controlled only to prevent unacceptable damage to resources on adjacent land or to protect threatened, endangered, sensitive, or locally rare species. Non-native, invasive insects and diseases may be eradicated or suppressed to prevent a loss of the special biological community. Favor biological control methods.

4D-007 Eradicate non-native invasive plants when the infestations are isolated. Use hand-applied pesticides, with Forest Supervisor approval, when necessary.

- 4D-008 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.
- 4D-009 Control non-native invasive species (plants, animals, insects, and diseases) where they are causing negative effects to rare communities. Do not introduce non-native species in or near rare communities, unless it is a natural enemy of a non-native pest.
- 4D-010 Allow native insects and diseases to play their natural ecological role if it does not pose a threat to the resource(s) for which the area was created.
- 4D-011 Removal of dead and down logs or other woody debris is only allowed within 100 feet of the centerline of an open road. Where needed to ensure public or employee safety, snags may be felled, but will be retained within the community as downed wood.
- 4D-012 For Laurel Fork and occupied habitat for shale barren rock cress, northeastern bulrush, smooth coneflower, swamp pink and Virginia sneezeweed, vegetation management activities shall only be conducted after consultation with the USFWS, and:
- Under an Endangered Species Act Section 10 research permit to determine the effects of an activity on the listed species or to determine activities that would contribute to the recovery of the species, or
 - To improve or maintain the listed species or other TEP species habitat after research has demonstrated the beneficial effects of the proposed management, or
 - When project-level assessment results in a no effect or may affect, not likely to adversely affect determination, or
 - To address public safety concerns.

Timber Management

- 4D-013 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.
- 4D-014 Salvage of dead and dying trees is only allowed if compatible with the biological resource for which the area was established.

Non-timber Forest Products

- 4D-015 Do not permit the collection of non-timber forest products, except for scientific purposes as permitted by the Forest Supervisor.

Wildland Fire Management

- 4D-016 Vegetation management may be accomplished with wildfire and prescribed fire along with mechanical treatments as an appropriate method of reducing costs associated with these activities.
- 4D-017 Prohibit new control line construction in or near bogs and seasonal ponds to avoid disrupting hydrology. Use existing roads, firelines, or streams to contain the burn wherever possible. Where

necessary, construct new firelines by less intensive methods such as wetline and cutting back flashy fuels. Handline may be used when it is the only option available.

- 4D-018 Do not construct firelines with heavy mechanized equipment (e.g. bulldozers and tractors) in rare communities when preparing for prescribed fire or managing wildfire, unless necessary to benefit or enhance the rare community (e.g. table mountain pine community).
- 4D-019 When necessary to include mesic deciduous forests within burning blocks, direct firing will not be done within these communities unless necessary to secure control lines. In these cases, only low intensity fires are allowed.
- 4D-020 Firelines constructed with heavy equipment are avoided whenever possible during wildfire management.

Recreation

- 4D-021 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 or improved recreational developments are designed to avoid adverse effects to threatened, endangered, sensitive, and locally rare species.
- 4D-022 These areas are unsuitable for designation of new Off-Highway Vehicle routes or All-Terrain Vehicle use areas, unless crossing the area is the only feasible alternative or results in less environmental impact.
- 4D-023 New trails may be constructed only to link existing trails or to provide interpretation of botanical-zoological resources and only when air, water, soil and biological resources are protected.
- 4D-024 Interpretive facilities and services including trails, signs, viewing areas and self-guided programs may be provided to enhance visitor appreciation and understanding of the plant and animal communities within these areas.

Appalachian National Scenic Trail

- 4D-025 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

- 4D-026 Management activities are designed to meet or exceed the following Scenic Integrity Objectives:

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

H=High; M=Moderate

Minerals

- 4D-027 These areas are suitable for federal oil and gas leasing with a “no surface occupancy” stipulation to protect threatened, endangered, sensitive, and locally rare species. Other Federal minerals may be available on a case-by-case basis after full consideration of effects on threatened, endangered, sensitive, and locally rare species.

4D-028 Permit mineral materials for commercial, personal, free, and administrative use purposes with conditions to protect threatened, endangered, sensitive, and locally rare species habitat.

4D-029 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-030 Only permit road construction to access valid existing rights and mineral leases, if necessary to achieve the objectives of the specific SBA, or if entering the rare community to access an adjacent area results in less environmental impact. Road reconstruction and minor relocation are permitted after full consideration of effects on the rare community and associated species and if there are no adverse impacts on threatened or endangered species.

4D-031 New roads are engineered to minimize impacts to the rare community and are managed as closed to public motorized travel.

Lands and Special Uses

4D-032 These areas are unsuitable for designation of new utility corridors, utility rights-of-way, communication sites or wind energy development. Existing uses may continue unless removal is necessary to protect threatened, endangered, sensitive, and locally rare species.

4D-033 Allow commercial use by outfitters and guides if compatible with preservation of the rare community values. Contest events such as foot races or horseback endurance events are generally discouraged, but can be considered on a case-by-case basis. Require outfitters and guides to use leave-no-trace techniques. Do not allow permanent camps.

Additional Direction

4D-034 The following standards will apply to those Special Biological Areas located within the Beards Mountain, Big Schloss, Dolly Ann, Elliott Knob, Jerkentight, Laurel Fork, Oliver Mountain, Rich Hole, and Southern Massanutten remote backcountry areas and in the portion of the Kelley Mountain area as displayed in Appendix I.

Timber may be cut, sold, or removed if one of the following circumstances exists. The cutting, sale, or removal of timber in these areas is expected to be infrequent.

- (1) The cutting, sale, or removal of generally small diameter timber is needed for one of the following purposes and will maintain or improve one or more of the remote area characteristics;
 - (i) To improve threatened, endangered, proposed, or sensitive species habitat; or
 - (ii) To maintain or restore the characteristics of ecosystem composition and structure, such as to reduce the risk of uncharacteristic wildfire effects, within the range of variability that would be expected to occur under natural disturbance regimes of the current climatic period;
- (2) The cutting, sale, or removal of timber is incidental to the implementation of a management activity not otherwise prohibited; or
- (3) The cutting, sale, or removal of timber is needed and appropriate for personal or administrative use.

Roads may not be constructed or reconstructed unless:

- (1) A road is needed to protect public health and safety in cases of an imminent threat of flood, fire, or other catastrophic event that, without intervention, would cause the loss of life or property;
- (2) A road is needed to conduct a response action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or to conduct a natural resource restoration action under CERCLA, Section 311 of the Clean Water Act, or the Oil Pollution Act;
- (3) A road is needed pursuant to reserved or outstanding rights, or as provided for by statute or treaty;
- (4) Road realignment is needed to prevent irreparable resource damage that arises from the design, location, use, or deterioration of a system road that cannot be mitigated by road maintenance. Road realignment may occur under this paragraph only if the road is deemed essential for public or private access, natural resource management, or public health and safety;
- (5) Road reconstruction is needed to implement a road safety improvement project on a system road determined to be hazardous on the basis of accident experience or accident potential on that road;
- (6) The appropriate decision-maker determines that a Federal Aid Highway project, authorized pursuant to Title 23 of the United States Code, is in the public interest or is consistent with the purposes for which the land was reserved or acquired and no other reasonable and prudent alternative exists; or
- (7) A road is needed in conjunction with the continuation, extension, or renewal of a mineral lease on lands that are under lease or for a new lease issued immediately upon expiration of an existing lease. Such road construction or reconstruction must be conducted in a manner that minimizes effects on surface resources, prevents unnecessary or unreasonable surface disturbance, and complies with all applicable lease requirements, land and resource management plan direction, regulations, and laws. Roads constructed or reconstructed pursuant to this paragraph must be obliterated when no longer needed for the purposes of the lease or upon termination or expiration of the lease, whichever is sooner.

Table 4-8. List of Special Biological Areas

DISTRICT	SITE NAME	ACRES	SITE TYPE
PEDLAR	Big Levels - Macrosite	17,793	Montane Depression Wetlands
	Cellar Mountain	280	Mountain/Piedmont Seepage Swamp
	Cold Spring Branch	565	Mountain/Piedmont Seepage Swamp
	Cole Mountain	135	Montane Mixed Oak/Oak-Hickory Forest
	Davidson Run Pond	13	Montane Depression Wetlands
	Dawn's Branch	843	Mountain/Piedmont Seepage Swamp
	Humpback Mountain	366	Mafic Glade
	Little Irish Creek	39	Eastern Hemlock-Hardwood Forest
	Mount Pleasant	95	Outcrop Barren
	Mountain View Church	229	Mountain/Piedmont Seepage Swamp
	Nicholson Run Seeps	149	Mountain/Piedmont Seepage Swamp
	Pines Chapel Ponds	373	Montane Depression Wetlands
	Punchbowl Mountain	16	Carex Polymorpha Habitat
	Rocky Mountain Glade	42	Outcrop Barren
	Spy Rock	22	Outcrop Barren
	The Priest	723	Cliff Talus
	Three Ridges Mountain - Flatrock	8	Outcrop Barren
	Three Ridges Mountain - Hanging Rock	12	Outcrop Barren
	Upper Crabtree Creek	209	Mountain/Piedmont Seepage Swamp
	Upper St. Marys River	2,208	Pine-Oak/Heath Woodland
JAMES RIVER	Anthony Knobs	31	Central Appalachian Shale Barren
	Bennetts Run	2,145	Appalachian Grizzled Skipper Habitat
	Blue Suck Barren	23	Central Appalachian Shale Barren
	Brattons Run Shale Barren	222	Central Appalachian Shale Barren
	Cast Steel Pond	540	Montane Depression Wetlands
	Cemetery Barren	52	Central Appalachian Shale Barren
	Craig Creek Shale Barren	102	Central Appalachian Shale Barren
	D.S. Lancaster Shale Barren	68	Central Appalachian Shale Barren
	Daisy Knob Barrens	126	Central Appalachian Shale Barren
	Dry Run	2,076	Carex Polymorpha Habitat
	East Sharon Shale Barren	435	Central Appalachian Shale Barren
	Frozen Knob Montane Wetland	51	Montane Depression Wetlands
	Gauging Station Shale Barren	225	Central Appalachian Shale Barren
	Harrington Roadside	24	Dry/Mesic Calcareous Forest
	Harrington Shale Woodland	7	Mountain/Piedmont Acidic Woodland
	Johns Run East Barren	20	Central Appalachian Shale Barren
	Johns Run West Barren	68	Central Appalachian Shale Barren
	Johnsons Creek	335	Central Appalachian Shale Barren
	Lake Moomaw Barrens	434	Central Appalachian Shale Barren
	Lower Potts Creek Barren	57	Central Appalachian Shale Barren
	McGraw Hollow	79	Central Appalachian Shale Barren
	Morris Hill	291	Montane Dry Calcareous Forest/Woodland
	Ogle Creek	46	Central Appalachian Shale Barren
	Potts Pond	75	Montane Depression Wetlands
	Rough Mountain	206	Central Appalachian Shale Barren
	Solomons Run Barren	46	Central Appalachian Shale Barren

DISTRICT	SITE NAME	ACRES	SITE TYPE
LEE	Big Schloss	476	Mountain/Piedmont Acidic Woodland
	Browns Hollow	1,148	Central Appalachian Shale Barren
	Buck Mountain	1,245	Gaylussacia Brachycera Habitat
	Burnshire Bridge Slopes	8	Central Appalachian Shale Barren
	Church Mountain	169	Montane Dry Calcareous Forest/Woodland
	Cove Mountain Ponds	99	Montane Depression Wetlands
	Cub Run Headwaters	286	Carex Polymorpha Habitat
	Edinburg Gap Shale Barren	351	Central Appalachian Shale Barren
	Horsetail	91	Mountain/Piedmont Seepage Swamp
	Indian Grave Ridge	17	Arabis patens, Eleocharis compressa, Solidago rupestris Habitat
	Moreland Gap Bog	45	Appalachian Bog
	Overall Riverside	27	Solidago rupestris Habitat
	Passage Creek	173	Piedmont/Mtn Small-Stream Alluvial Forest
	Peach Orchard Gap	25	Central Appalachian Shale Barren
	Peters Mill Run Bog	525	Calcareous Fen
	Pond Run Pond	85	Montane Depression Wetlands
	Powells Fort Camp Bog	147	Calcareous Fen
	Salus Spring	304	Montane Calcareous Seepage Swamp
	Scothorn Gap	35	Mountain/Piedmont Seepage Swamp
	Signal Knob Barren	226	Central Appalachian Shale Barren
	Teets Bog	32	Montane Depression Wetlands
	Tibbet Knob	22	Montane Mixed Oak/Oak-Hickory Forest
	Trout Pond	2	Cave/Karst
	Twin Blackwater Ponds	17	Montane Depression Wetlands
	Vances Cove	6	Mountain/Piedmont Seepage Swamp
	Waterfall Mountain Cliffs	53	Cliff Talus
Waterfall Mountain Seeps	71	Mountain/Piedmont Seepage Swamp	
NORTH RIVER	Big Cedar Shale Barren	43	Central Appalachian Shale Barren
	Blackies Hollow	143	Central Appalachian Shale Barren
	Brushy Knob	134	Central Appalachian Shale Barren
	Camp Kannata	48	Central Appalachian Shale Barren
	Camp Run Prairie	163	Juniper Woodland
	Clayton Mill Pond	28	Montane Depression Wetlands
	Clayton Mill Spring	37	Mountain/Piedmont Seepage Swamp
	Daddy Run Barrens	103	Central Appalachian Shale Barren
	Dunkle Knob	170	Central Appalachian Shale Barren
	Elliott Knob	3,377	Northern Red Oak Forest
	Head Waters Shale Barren	98	Central Appalachian Shale Barren
	Heavener Mountain Shale Barren	57	Central Appalachian Shale Barren
	Little Fork Shale Barren	80	Central Appalachian Shale Barren
	Maple Springs	102	Montane Depression Wetlands
	Puffenbarger Glade	141	Sandstone Glade
	Ratcliff Hill	31	Central Appalachian Shale Barren
	Reubens Draft Shale Barren	39	Central Appalachian Shale Barren
	Road Hollow Ridge	74	Montane Mixed Oak/Oak-Hickory Forest
	Road Run Shale Barren	145	Central Appalachian Shale Barren
	Scott Hollow Barren	24	Central Appalachian Shale Barren

DISTRICT	SITE NAME	ACRES	SITE TYPE
NORTH RIVER	Sister Knob	1,554	Central Appalachian Shale Barren
	Stuart Run	473	Calcareous Cliff
	Sugar Run Shale Barren	202	Central Appalachian Shale Barren
	Swamp Run Trib Shale Barren	14	Central Appalachian Shale Barren
	Thompson's Shale Barren	17	Central Appalachian Shale Barren
	Whetmiller Knob	71	Central Appalachian Shale Barren
WARM SPRINGS	Beards Mountain	150	Montane Mixed Oak/Oak-Hickory Forest
	Blowing Springs	838	Dry/Mesic Calcareous Forests, cliff, cave
	Browns Pond	117	Montane Depression Wetlands
	Campground Barren	18	Central Appalachian Shale Barren
	Chestnut Ridge Seep	81	Mountain/Piedmont Seepage Swamp
	Chimney Rocks	590	Calcareous Cliff
	Copeland Barrens	160	Central Appalachian Shale Barren
	Cowardin Run	85	Central Appalachian Shale Barren
	Forest Road 462 Barrens	74	Central Appalachian Shale Barren
	Hidden Valley	1,135	Dry calcareous forest, cave/karst
	Laurel Fork	6,694	Central Appalachian Red Spruce Forest
	Limekiln Hollow	48	Central Appalachian Shale Barren
	Mill Hill	56	Cliff Talus, Calcareous
	Mill Mountain Pond	31	Montane Depression Wetlands
	Millboro Tunnel Shale Barren	207	Central Appalachian Shale Barren
	Mountain Grove Primary	635	Cave/Karst
	Nimrod Hall Ridge	202	Montane Dry Calcareous Forest/Woodland
	Northeast Beards Mountain	854	Central Appalachian Shale Barren
	Paddy Knob	1,847	Montane Mixed Oak/Oak-Hickory Forest
	Rough Mountain	2,744	Central Appalachian Shale Barren
	South Fork Pads Creek Barren	125	Central Appalachian Shale Barren
	Starr Chapel Primary	1,162	Cave/Karst
	Warm Springs Mountain	146	Eastern Hemlock-Hardwood Forest
Winterberry Pond	59	Montane Depression Wetlands	
Total	123 Areas	63,000	

4D1 - KEY NATURAL HERITAGE COMMUNITY AREAS

The two areas currently in this management prescription area are at Frozen Knob and Peters Mountain on the James River Ranger District (about 3,000 acres). These areas are dominated by dry to mesic oak dominated forest communities on geologic formations typical of the folded Appalachian ridges. The primary distinction of these two areas is the extent and older ages of much of the dominant vegetation that the Virginia Division of Natural Heritage considers to represent some of the best examples of this old growth forest type on this landform.

EMPHASIS

These lands provide high quality examples of vegetation communities that are not uncommon, but have distinctive characteristics needing management direction to maintain their character and are recommended by state or federal agencies.

DESIRED CONDITIONS FOR 4D1 - KEY NATURAL HERITAGE COMMUNITY AREAS

DC 4D1-01: Key Natural Heritage Community Areas are managed to maintain and enhance the unusual character of the vegetation for which the area was identified. For Frozen Knob and Peters Mountain this character is the old-age forest.

DC 4D1-02: The natural evolving or natural appearing landscape character of these areas exhibits predominantly a late successional to old growth forest community. Ideally, natural processes, including fire, within these areas proceed unencumbered and any management activity should mimic these natural processes.

DC 4D1-03: All areas are protected from human-caused detrimental habitat change and the collection of living plants or animals unless such collections are used for achieving the stated management goals. Recreational access through these areas may be limited in order to protect natural heritage resources. Where public access is unrestricted, interpretive information is available to develop understanding of the importance of protecting and managing the plant and animal communities of the area.

DC 4D1-04: Access to these areas may be limited. New roads are generally managed as closed, except when needed to reestablish public and administrative access to an area. New trail sections to link existing trails or for education and interpretation are considered on a case-by-case basis. Recreation opportunities emphasize: interpretation, bird watching, wildlife viewing, nature photography, and hiking on non-motorized, non-mechanized foot trails.

STANDARDS FOR 4D1 - KEY NATURAL HERITAGE COMMUNITY AREAS

The same standards as 4D–Botanical/Zoological Areas apply to this area. An exception to this is that construction of a road to reestablish public motorized access to Forest Road 173 such as that described in the 2013 Environmental Assessment for the Peters Mountain Access Project is allowed.

4E - CULTURAL AREAS

Cultural Areas consisting of seventeen prehistoric sites and fourteen historic sites have been identified. Some of these resources are listed as Priority Heritage Assets and others consist of cultural resources located within multi-use areas. Those areas containing resources accessible by the public for scientific study and education are the Confederate Breastworks, Camp Roosevelt, Elizabeth Furnace, Callie Furnace, Catherine Furnace, Capon Furnace, Van Buren Furnace, Mount Torry Furnace, Wallace House, High Knob Tower, Signal Knob, Brown Mountain Community, and Warwick Mansion. As of this time no prehistoric resources are available for public visit. Prehistoric and Historic sites are non-renewable resources found within National Forest System lands.

EMPHASIS

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

DESIRED CONDITIONS FOR 4E - CULTURAL AREAS

DC 4E-01: Significant cultural resources are protected from loss. Significant sites are stabilized, treated, managed and preserved for their historical research and/or cultural value. Effective relationships are maintained with Federal, State, Tribal and local governments and historic preservation organizations with interests in protecting cultural resources and promoting learning opportunities.

DC 4E-02: Cultural Areas provide outstanding opportunities for people to learn about the cultural history of the Forest and to enjoy a wide variety of recreation opportunities in an attractive setting. Safe, barrier-free public access by both roads and trails is provided and designed to protect sensitive historic resources. Sensitive resources and areas are protected from human-caused damage. Recreational access through parts of these areas may be limited in order to protect historic resources. Where public access is unrestricted, interpretive information is available to develop understanding of the importance of protecting the historic and biological communities of the area. Interpretive materials and services are high quality and effectively communicate the influence of people on the forest ecosystem. Historic Property Plans are prepared for these areas covering site interpretation; cultural/historic resource protection; vegetation, fire, and wildlife management; and other resource uses.

DC 4E-03: There is low need for visitors to rely on their personal physical abilities and primitive recreation skills. Education and interpretation are strongly emphasized and school groups are encouraged to visit the sites. The sights and sounds of other visitors are evident and opportunities to encounter other visitors are moderate to high. Visitors seeking solitude may find that difficult to achieve, particularly in peak use seasons. Trails may be highly developed, including hardened trails and boardwalks to protect the resource and to provide for a high level of accessibility for persons of all abilities. Mountain biking, horseback riding, and dispersed camping may be confined to designated trails and areas. Other appropriate recreational activities include hiking, bird watching, photography, hunting and fishing.

DC 4E-04: Visitors enjoy a variety of forested and non-forested communities, with outstanding and interesting historic features. The landscape character is typically historic, pastoral, or cultural often showing a great deal of human influence, surrounded by a natural appearing backdrop. Late successional to old growth forest communities occur in some of these areas and additional acres may be allowed to develop in future years if consistent with the historic character of the area.

DC 4E-05: Some of these cultural areas lie within the foreground of the Appalachian National Scenic Trail. Within the foreground of the Appalachian Trail, management practices are designed to achieve the desired condition of this management prescription as well as protect the Appalachian Trail experience, strengthen the role of volunteers and volunteer organizations, provide opportunities for high quality outdoor recreation experiences, and provide for the conservation and enjoyment of the nationally significant scenic, historic, natural and cultural qualities of the land through which the Appalachian Trail passes.

DC 4E-06: Since there is the potential for large numbers of visitors at peak use seasons, regulations are necessary for protection of resources and visitors. Information is provided at bulletin boards or kiosks, as well as at Forest Service visitor's centers and in brochures. Visitors are encouraged to practice minimum impact techniques while recreating. Trash receptacles may be provided at parking areas and high use areas. Modern facilities that fit with the historic character of the area are present to provide for visitor safety and comfort and to protect resources. Facilities are designed with sensitivity to character, scale, and color, which complement the surroundings at each specific site. This could range from semi-primitive to rural. Facilities might include parking areas, trailheads, bulletin boards, interpretive kiosks, signs, restrooms, canoe/raft launches, fishing platforms, picnic sites, etc.

DC 4E-07: These areas are characterized by a full range of forest successional stages from early to mid to late. Early successional forest conditions may be created when compatible with the cultural and historic objectives of the area. Vegetation is influenced both by natural processes and humans. Low intensity timber harvest, prescribed fire, wildlife habitat improvements, and integrated pest management are appropriate management tools to maintain the long-term goals of the desired condition related to education and interpretation of the historic uses of these areas. Wildland fires are suppressed using an appropriate management response to protect cultural resources.

STANDARDS FOR 4E - CULTURAL AREAS

General

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

Water, Soil, and Air

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

Terrestrial and Aquatic Species

4E-003 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.

Vegetation and Forest Health

4E-004 Control insect and disease outbreaks when necessary to protect the cultural/historic values, to reduce hazards to visitors, or for safety or legal reasons. Eradicate recently established non-native pests when possible. Favor the most effective control method.

4E-005 Non-native non-invasive species may be planted for watershed restoration purposes.

4E-006 Allow vegetation management activities to:

- Restore or maintain historic vegetative communities appropriate to the time period being emphasized;
- Demonstrate historic and present day logging systems;
- Enhance or rehabilitate scenery;
- Maintain recreation facilities, including roads and trails;
- Enhance both game and non-game wildlife habitat;
- Improve threatened, endangered, sensitive, and locally rare species habitat;
- Maintain rare communities and species dependent on disturbance;

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

Timber Management

- 4E-007 These areas are unsuitable for timber production. Vegetation management may be accomplished with commercial timber sales as an appropriate method of reducing costs associated with these activities.
- 4E-008 Salvage of dead and dying trees is only allowed if compatible with the cultural resources for which the area was established.

Wildland Fire Management

- 4E-009 A full range of suppression strategies are employed to protect cultural/historic resources that may be negatively impacted by fire.
- 4E-010 Vegetation management may be accomplished with wildfires and prescribed fire along with mechanical treatments as an appropriate method of reducing costs associated with these activities.
- 4E-011 Areas where heavy equipment fireline construction is prohibited are designated through the site plan for the area.

Recreation

- 4E-012 Recreational access through these areas may be restricted in order to protect historic and cultural resources.
- 4E-013 To the extent that cultural resources can be fully protected, interpretive facilities and services including trails, signs, viewing areas, self-guided programs, and buildings may be provided to enhance visitor appreciation and understanding of cultural resources.

Appalachian National Scenic Trail

- 4E-014 Within the foreground of the Appalachian Trail, all activities will be planned and carried out in cooperation with the appropriate Appalachian Trail management partner(s). See Management Area Prescription 4A for additional management direction applicable to this corridor.

Scenery

- 4E-015 Management activities are designed to meet or exceed the following Scenic Integrity Objectives:

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

H=High; M=Moderate

- 4E-016 Facilities and management activities emphasize the historic landscape character.

Minerals

- 4E-017 These areas are suitable for federal oil and gas leasing with no surface occupancy to protect the cultural/historic resources and values. Other Federal minerals may be available on a case-by-case basis.
- 4E-018 These areas are not available for mineral materials for commercial, personal, or free use purposes. Administrative use of mineral materials is allowed.

Roads

- 4E-019 Only permit road construction to access valid existing rights and mineral leases, or if entering the area to access an adjacent area results in less environmental impact. Road reconstruction and minor relocation are permitted after full consideration of effects on the cultural resources.

Lands and Special Uses

- 4E-020 These areas are unsuitable for designation of new utility corridors, utility rights-of-way, communication sites and wind generation. Continue existing uses. Require a landscape management plan with screening, feathering, and other vegetation management techniques to mitigate the visual and other impacts of new, upgraded, or reauthorized utility corridors or communication sites.

4F - MOUNT PLEASANT NATIONAL SCENIC AREA

EMPHASIS

The 7,695-acre Mount Pleasant National Scenic Area was designated by the U.S. Congress in 1994. The purposes of the George Washington National Forest Mount Pleasant Scenic Area Act are to:

- Ensure appropriate protection and preservation of the area's scenic quality, water quality, natural characteristics, and water resources;
- Protect and manage vegetation to provide wildlife and fish habitat consistent with paragraph (1);
- Provide areas that may develop characteristics of old-growth forests; and
- Provide a variety of recreation opportunities that are consistent with the preceding purposes.

The Mount Pleasant National Scenic Area is well known for its prominent mountains, including Mount Pleasant, Pompey, and Cold Mountain, as well as the very popular Henry Lanum Memorial Trail, the Mount Pleasant Spur Trail, the Old Hotel Trail, and a portion of the Appalachian National Scenic Trail. Some of the best views on the Pedlar Ranger District are possible from Mount Pleasant and Cold Mountain.

The Congressional Act provides direction on what activities can occur and how they can occur within the Mount Pleasant National Scenic Area. The standards that follow mimic the Act. If differences in interpretation arise, the language in the Act governs (*16 U.S.C 545(b)(1)*).

DESIRED CONDITIONS FOR 4F - MOUNT PLEASANT NATIONAL SCENIC AREA

DC 4F-01: The Mount Pleasant National Scenic Area offers a variety of recreational opportunities for people to enjoy the outstanding scenery for which it received designation. These recreational offerings are in harmony with protecting unique biological and primitive recreation opportunities. This area is very popular for various forms of non-motorized dispersed recreation including hiking, hunting, horseback riding, and fishing.

DC 4F-02: The Mount Pleasant National Scenic Area offers excellent opportunities for solitude and serenity. The core of the Mount Pleasant National Scenic Area appears relatively remote.

DC 4F-03: The opportunity to encounter other visitors is high along roadways, at parking areas and trail overlooks, but may be moderate to low on trails away from congregated use areas. Visitors are rarely challenged to rely on their own physical abilities and outdoor skills. Once away from open roads and trailheads, opportunities for solitude are available. In these more remote areas, visitors may take on some risk and be challenged to rely on their own personal physical abilities. Most visitor information is dispensed outside of the National Scenic Area at trailheads and through off-site public information and education efforts.

DC 4F-04: Trails through this area are well-marked and may include features for visitors with special access needs, loop systems, and/or interpretation. Very few facilities are provided. Permanent human-made shelters may be present, particularly along the Appalachian National Scenic Trail. Construction of new shelters on new sites may be allowed if there is an obvious and overriding need to protect the natural resources from visitor impacts or for public health and safety.

DC 4F-05: The landscapes of these areas are primarily shaped by natural processes (floods, storms, insects, diseases, and fires) with occasional openings for wildlife viewing. Landscapes feature a structurally diverse mid- to late successional forest with pastoral and historic/cultural enclaves. Emphasis on natural processes results in patches of old growth forest. Cavity trees, standing dead trees, and down logs are common as a result of natural mortality. The valued character of the natural appearing and cultural landscapes either appears intact or is actually intact. Wildlife openings and old field habitats are maintained, however most of the area develops characteristics of older ecosystems.

STANDARDS FOR 4F - MOUNT PLEASANT NATIONAL SCENIC AREA**Terrestrial and Aquatic Species**

- 4F-001 Existing old fields, wildlife openings, and other habitat improvements for fish and wildlife may be present and maintained, but no expansion of openings or creation of new permanent openings of this type occurs.

Vegetation and Forest Health

- 4F-002 Vegetation manipulation may be practiced for the maintenance of existing wildlife clearings and visual quality.
- 4F-003 Insect and disease outbreaks may be controlled to maintain scenic quality, prevent tree mortality, reduce hazards to visitors, or protect private lands.

Timber Management

- 4F-004 These lands are classified as unsuitable for timber production. No timber harvest shall be allowed, except as may be necessary in the control of fire, insects, and diseases; or to provide for public safety and trail access.

Non-timber Forest Products

- 4F-005 Harvesting of firewood for personal use is permitted along perimeter roads.

Wildland Fire Management

- 4F-006 Wildfire and prescribed fire may be used to manage the vegetation of existing wildlife clearings, provide wildlife habitat, or open areas in association with the Appalachian National Scenic Trail.

Recreation

- 4F-007 For management of lands along the Appalachian Trail, follow the standards listed under Management Prescription Area 4A of this Revised Forest Plan. Where conflicts occur between management of the Appalachian Trail and provisions of the Mount Pleasant Scenic Area Act, follow the provisions of the Act.

Scenery

- 4F-008 Management activities are designed to meet or exceed a High Scenic Integrity Objective.

Minerals

- 4F-009 All lands with federal mineral rights in the Mount Pleasant National Scenic Area are withdrawn from location, entry, and patent under the mining laws of the United States, and from leasing claims under the mineral and geothermal leasing laws of the United States, including amendments to such laws.

Roads

- 4F-010 No new permanent roads shall be constructed, except that this prohibition shall not be construed to deny access to private lands or interests therein in the Scenic Area.
- 4F-011 Motorized travel in the Scenic Area shall be allowed on State Route 635 and Forest Development Road 51. Except as listed above, motorized travel shall not be permitted within or on the boundary of the Scenic Area except as necessary for administrative use in furtherance of the purposes of

the George Washington National Forest Mount Pleasant Scenic Area Act of August 26, 1994 (PL 103-314).

4F-012 Any abandoned or closed roads are revegetated for resource protection.

Lands and Special Uses

4F-013 This area is unsuitable for designation of wind energy development.

4FA - SHENANDOAH MOUNTAIN RECOMMENDED NATIONAL SCENIC AREA

The 67,000 acre Shenandoah Mountain area is recommended to Congress for designation as a National Scenic Area. This section addresses the desired direction for management of the area. Actual direction for management of a National Scenic Area would be prescribed in the legislation that designates the area.

EMPHASIS

The purposes of the Shenandoah Mountain Scenic Area are to:

- Ensure appropriate protection and preservation of the area's scenic quality, water quality, natural characteristics, and water resources;
- Protect and manage vegetation to provide wildlife and fish habitat consistent with the previously described purpose;
- Protect habitat for the Cow Knob salamander;
- Provide areas that may develop characteristics of old-growth forests; and
- Provide a variety of recreation opportunities that are consistent with the preceding purposes.

The Shenandoah Mountain National Scenic Area is well known for its scenic overlooks from the crest of Shenandoah Mountain, particularly Reddish Knob. Some of the best views on the North River Ranger District are possible from the crest of Shenandoah Mountain. Shenandoah Mountain has exceptional beauty and outstanding opportunities for solitude, encompassing five National Forest roadless areas and surrounding Ramseys Draft Wilderness and the Little River watershed that is recommended for wilderness study. The area provides clean drinking water; clean air; and erosion and flood control for Shenandoah Valley residents. It is a large, substantially unfragmented forest teeming with wildlife and home to neo-tropical songbirds, black bear, native trout, and a number of rare species including the Cow Knob salamander. There are abundant recreational opportunities, including camping, hiking, mountain biking, horseback riding, fishing, hunting, rock-climbing, and birding.

DESIRED CONDITIONS FOR 4FA - SHENANDOAH MOUNTAIN RECOMMENDED NATIONAL SCENIC AREA

DC 4FA-01: The Shenandoah Mountain National Scenic Area offers scenic views and a variety of recreational experiences that are in harmony with protecting unique biological and primitive recreation opportunities. This area is very popular for various forms of non-motorized dispersed recreation including hiking, biking, hunting, horseback riding, and fishing.

DC 4FA-02: The Shenandoah National Scenic Area offers excellent opportunities for solitude and serenity. The core of the Shenandoah Mountain National Scenic Area appears relatively remote.

DC 4FA-03: Most of the Shenandoah Mountain National Scenic Area develops characteristics of older ecosystems. As the vegetation within the Shenandoah Mountain National Scenic Area continues to age, there is natural mortality. The area also reflects the important role of fire in shaping the character of the vegetation.

DC 4FA-04: Wildlife habitat conditions are similar to those found in Remote Backcountry areas. Within this area, habitats are managed to maintain or enhance Cow Knob salamander populations and populations of other threatened, endangered, sensitive, and locally rare (TESLR) species, including the Shenandoah Mountain salamander.

DC 4FA-05: Management activities limit negative impacts to Cow Knob salamander populations from permanent and long-term fragmentation, isolation, and edge effects (such as drying from increased insolation, impacts from edge predators, invasion of non-native invasive plants, and increased competition from other salamander species). No new permanent roads are constructed. Restoration of canopy and cover along temporary and decommissioned roads occurs quickly. Canopy closure along road rights-of-way is common. New trails may be constructed if no adverse effect on Cow Knob salamander populations will occur. Trail and road reconstruction, minor relocation, and new parking facilities are permitted. All activities are conducted with full consideration of effects on Cow Knob salamander populations.

STANDARDS FOR 4FA - SHENANDOAH MOUNTAIN RECOMMENDED NATIONAL SCENIC AREA**Terrestrial and Aquatic Species**

- 4FA-001 Existing old fields, wildlife openings, and other habitat improvements for fish and wildlife may be present and maintained.
- 4FA-002 New wildlife openings of approximately 2-5 acres in size can be created near existing roads with the locations being determined before enabling legislation is passed. Openings can only be created in areas where there would be no negative impacts on Cow Knob salamander habitat.

Vegetation and Forest Health

- 4FA-003 Vegetation manipulation may be practiced for the maintenance of existing wildlife clearings and scenic enhancements.
- 4FA-004 Insect and disease outbreaks may be controlled to maintain scenic quality, prevent tree mortality, reduce hazards to visitors, or protect private lands.
- 4FA-005 Native forest insect and disease outbreaks are controlled only to prevent unacceptable damage to resources on adjacent land or to protect threatened, endangered, sensitive, or locally rare species. Non-native invasive insects and diseases may be eradicated or suppressed to prevent a loss of the special biological community. Favor biological control methods.
- 4FA-006 Control or eradicate non-native invasive plants using hand-applied herbicides, with Forest Supervisor approval, when necessary.
- 4FA-007 Control non-native invasive animals, insects, and diseases where they are causing negative effects to rare communities. Do not introduce non-native species in or near rare communities, unless it is a natural enemy of a non-native pest.

Timber Management

- 4FA-008 These lands are classified as unsuitable for timber production. No timber harvest shall be allowed, except as may be necessary in the control of fire, insects, and diseases; or to provide for public safety, trail access, and construction and maintenance of overlooks and vistas.

Non-timber Forest Products

- 4FA-009 Harvesting of firewood for personal use is permitted along roads.

Wildland Fire Management

- 4FA-010 Wildfire and prescribed fire may be used to manage the vegetation and restore and maintain the ecological systems in the area.
- 4FA-011 New dozer and/or plow control lines for prescribed burns are prohibited in or near bogs and seasonal ponds to avoid disrupting hydrology. Use existing roads, firelines, or streams to contain burns where possible. Favor construction of new firelines by using less intensive methods such as wetline, handline, and cutting back flashy fuels.
- 4FA-012 In areas of Cow Knob Salamander habitat (areas above 3,000 feet elevation), heavy mechanized equipment (e.g. bulldozers and tractors) may be used only if compatible with the values for which the Shenandoah Mountain Crest (8E7) management prescription area was created. The amount of disturbance will be reduced through the use of smaller sized bulldozers and tractors.

- 4FA-013 In areas outside of Cow Knob salamander habitat, firelines may be constructed with heavy equipment but the amount of disturbance will be reduced through the use of smaller sized bulldozers and tractors.

Recreation

- 4FA-014 Construction of trailheads and non-motorized trails is allowed when there is demonstrated demand and a partnership with one or more user groups committed to performing long-term maintenance.
- 4FA-015 Modify recreation sites or trails to reduce or eliminate negative effects where recreational uses are negatively affecting threatened, endangered, sensitive, and locally rare species. New and improved recreational developments are designed to avoid adverse effects to threatened, endangered, sensitive, and locally rare species.
- 4FA-016 Where appropriate, interpretive services (trails, signs, viewing areas) are provided to enhance visitors' understanding and appreciation of the area's special values.
- 4FA-017 Trails and other recreation facilities are located to minimize impacts occurring to the natural values of the established area.
- 4FA-018 Vistas and associated turn-outs may be maintained or increased where compatible with biological values.
- 4FA-019 Recreation facilities at High Knob Tower, Hone Quarry, Confederate Breastworks, and North River may continue to be managed to meet developed recreation needs.

Scenery

- 4FA-020 Management activities are designed to meet or exceed a High Scenic Integrity Objective.

Minerals

- 4FA-021 All lands with federal mineral rights in the Shenandoah Mountain National Scenic Area are not suitable for oil and gas and other Federal leasable minerals.

Roads

- 4FA-022 No new permanent roads shall be constructed, except that this prohibition shall not be construed to deny access to private lands or interests therein in the Scenic Area.
- 4FA-023 Reconstruction, minor relocation and construction of parking facilities are permitted where compatible with biological values.
- 4FA-024 Motorized travel is allowed on the system of roads within the area. New trailhead parking areas may be constructed along system roads.
- 4FA-025 Any abandoned or closed roads are revegetated for resource protection.

Lands and Special Uses

- 4FA-026 This area is unsuitable for designation of wind energy development.

5A – ADMINISTRATIVE SITES

EMPHASIS

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

DESIRED CONDITIONS FOR 5A - ADMINISTRATIVE SITES

DC 5A-01: Provide administrative sites and facilities that effectively and safely serve the public and accommodate the workforce. Administrative sites are readily accessed by road, although some are accessed by trails. The facilities should have barrier-free access.

DC 5A-02: The landscape character could range from natural appearing to urban/cultural. These areas are classified as unsuited for timber production.

DC 5A-03: Forest Service offices and/or visitor centers provide educational and/or interpretive opportunities such as exhibits and displays, books, videos and brochures. Where feasible and appropriate, short hiking trails are provided in association with office visitor centers. Lookout towers provide opportunities for viewing scenery on a grand scale. Hunting and fishing are generally not allowed at administrative sites.

DC 5A-04: Some of these administrative sites lie within the foreground of the Appalachian National Scenic Trail. Within the foreground of the Appalachian Trail, management practices are designed to achieve the desired condition of this management prescription as well as protect the Appalachian Trail experience, strengthen the role of volunteers and volunteer organizations, provide opportunities for high quality outdoor recreation experiences, and provide for the conservation and enjoyment of the nationally significant scenic, historic, natural and cultural qualities of the land through which the Appalachian Trail passes.

STANDARDS FOR 5A - ADMINISTRATIVE SITES

Vegetation and Forest Health

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

Appalachian National Scenic Trail

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

Scenery

5A-003 Management activities are designed to meet or exceed the following Scenic Integrity Objectives:

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

H=High; M=Moderate

Minerals

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

5B - DESIGNATED COMMUNICATIONS SITES

EMPHASIS

These designated sites contain special uses which serve a public benefit by providing a reliable communication network essential to local, regional, and national economies and security. These sites include ridgetop towers and other related facilities. These designated sites are managed to minimize adverse impacts on other resources. These sites are located at Signal Knob (Lee RD), Great North Mountain (Lee RD), Big Mountain (Lee RD), Elliot Knob (North River RD), White Grass Knob (North River RD), Narrowback Mountain (North River RD), North Mountain (James River RD), Fore Mountain (James River RD), Harmons Branch (James River RD), Alleghany County (James River RD), Rocky Mountain (Pedlar RD), Bald Mountain (Warm Springs RD), Little Back Creek (Warm Springs RD) and Duncan Knob (Warm Springs RD).

DESIRED CONDITIONS FOR 5B - DESIGNATED COMMUNICATION SITES

DC 5B-01: Existing special use authorizations for communications continue within these designated sites. Each site is developed and utilized to its greatest potential in order to reduce the need to develop additional sites. Where possible, existing sites are expanded as needed rather than creating additional areas. Colocation of communication equipment on existing towers is encouraged. All users' equipment are compatible with forest surroundings and others users' equipment and frequencies. New equipment should be as inconspicuous to the surrounding terrain as possible. Special use authorizations are issued.

DC 5B-02: Vegetation consists predominantly of low grasses and wildflowers with some native deciduous and evergreen shrubs. For the most part the areas consist of gently rolling terrain, some with exposed surface rock, rock outcrops, and meandering streams.

DC 5B-03: The protection of rare communities and species associates is provided, along with protection measures for population occurrences for threatened, endangered, sensitive, and locally rare species. This will provide a high likelihood that species within these associations will continue to persist on National Forest System lands.

DC 5B-04: The landscape character is cultural/urban. Scenery management techniques are used to mitigate adverse impacts. Utilizing existing and proposed towers to accommodate as many users as possible (within technical constraints) reduces tower clutter. These sites are non-forested, benefiting wildlife species, which favor grass, shrubs, old fields, and forest edges. These areas are managed to retain low growing vegetation which conforms to the safe operating requirements of the communication use and which reduce surface water runoff and erosion. Recreation is not emphasized or encouraged at these sites, although some of these sites are located within the foreground of the Appalachian National Scenic Trail.

STANDARDS FOR 5B - DESIGNATED COMMUNICATION SITES

See also Forestwide Standards FW-243 to FW-249.

General

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

Vegetation and Forest Health

5B-002 Aggressively control non-native, invasive plant species within these areas.

Appalachian National Scenic Trail

5B-003 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 Area Prescription 4A for additional management direction applicable to this corridor.

Scenery

5B-004 Management activities are designed to meet or exceed the following Scenic Integrity Objectives:

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

H=High; M=Moderate; L=Low

5B-005 Colocation of equipment on existing communication towers or electric transmission towers is preferred over adding new facilities or new sites.

5C – DESIGNATED UTILITY CORRIDORS

EMPHASIS

These designated corridors contain special uses which serve a public benefit by providing a reliable supply of electricity, natural gas, or water essential to local, regional, and national economies. They include long linear features like high voltage electric transmission lines and buried pipelines for public drinking water or natural gas. These designated corridors serve uses that require at least a 50 feet wide right-of-way. Local distribution lines are not included in this prescription area, but rather are part of the prescription area in which they are physically located. Approximately 7,000 acres are allocated to this management prescription area across the Forest.

DESIRED CONDITIONS FOR 5C - DESIGNATED UTILITY CORRIDORS

DC 5C-01: Existing linear special use authorizations for transmission lines and pipelines for water and natural gas will continue within these designated corridors. Rights-of-way for uses within designated utility corridors are authorized by special use permit or easement. Where possible, existing corridors are expanded as needed rather than creating additional areas. Compatible multiple uses are encouraged, including co-location of communication uses on existing electric transmission towers.

DC 5C-02: Vegetation consists predominantly of low grasses, wildflowers with some native deciduous and evergreen shrubs, low-growing trees like dogwood and redbud, and young, sapling-sized trees.

DC 5C-03: The protection of rare communities and species associates is provided, along with the protection measures for population occurrences for threatened, endangered, sensitive, and locally rare species. This will provide a high likelihood that species within these associations will continue to persist on National Forest System lands.

DC 5C-04: Utility corridors are prime areas for viewing wildlife species that favor grass, shrubs, old fields, and forest edges. These areas are managed to retain low growing vegetation which conforms to the safe operating requirements of the utility and which reduces surface water runoff and erosion. Recreation use is generally hunting-related, although existing trail systems often cross these corridors. Some of these corridors are located within the foreground of the Appalachian National Scenic Trail. The landscape character could range from natural appearing to pastoral/cultural. Scenery management techniques are used to mitigate adverse impacts. These lands are predominately non-forest and therefore classified as unsuitable for timber production.

STANDARDS FOR 5C - DESIGNATED UTILITY CORRIDORS

Terrestrial and Aquatic Species

5C-001 Where utility corridors pass through Special Biological Areas or Special Geologic Areas, any use of herbicides will be evaluated with respect to the resources for which the special areas were established.

Vegetation and Forest Health

5C-002 Aggressively control non-native, invasive plant species within these corridors.

Appalachian National Scenic Trail

5C-003 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 Area 4A for additional management direction applicable to this corridor.

Scenery

5C-004 Management activities are designed to meet or exceed the following Scenic Integrity Objectives:

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

H=High; M=Moderate; L=Low

7A1 - HIGHLANDS SCENIC BYWAY

The Highlands Scenic Byway is a 19.6-mile loop designated by the Chief of the Forest Service. It is located in Alleghany and Rockbridge Counties and includes segments of State Route 850, State Route 770 and National Forest System Road 447. This management prescription area encompasses approximately 5,000 acres. From the dense forested stream valleys of Brattons Run and Simpson Creek to the upland hardwood forest on the ridge of North Mountain, the Highlands Scenic Drive weaves through scenery which consists primarily of a continuous cover of forest. There are views to impressive geologic formations on the upper slopes as well as beautiful cascading streams in narrow valleys. There are numerous remnants of a once thriving mining community, including building foundations and a narrow gauge railroad grade.

There is a modest interpretive facility, trailhead and short loop trails along Simpson Creek. Other short interpretive trails are located along the Highlands Scenic Tour route. At least three overlooks with parking are located along the ridge of North Mountain.

EMPHASIS

The Highlands Scenic Byway showcases the natural scenery, forest vegetation, cultural, geologic resources, and techniques used by the Forest Service to design and implement management activities in a manner that meets scenery integrity objectives and protects cultural and natural resources.

DESIRED CONDITIONS FOR 7A1 - HIGHLANDS SCENIC BYWAY

DC 7A1-01: Vegetation is influenced both by natural processes and humans. Biological communities are maintained or improved to provide an attractive setting for visitors, while providing for the protection of rare communities and threatened, endangered, sensitive or locally rare species. Forest management activities maintain the natural characteristics that make the area scenic. Up to 10% of forested land may be in early successional forest conditions created both naturally and purposefully to create visually diverse vegetation stages and provide opportunities to interpret management activities. Low intensity commercial timber harvest is appropriate to maintain the long-term goals of a diverse and vigorous forest.

DC 7A1-02: This area is characterized by a predominance of mid- and late-successional forests with a high to intermediate tolerance to shade. Forest structure varies according to ecological factors, but largely consists of a mature overstory of hardwoods, occasionally mixed with pines, a fairly open midstory, and a well-developed herbaceous and shrubby understory. Even- and uneven-aged forest communities are managed throughout the area, along with continued development of small and medium patches of late-successional and old growth forest communities.

DC 7A1-03: Road corridor improvements and facilities are evident changes to the natural environment. These components of a scenic byway and other man-made alterations fit well with the character of the surrounding landscape. Facilities include but are not limited to parking areas or pull-outs, trails or trailheads, buildings, viewing areas, and signs. Routes are signed to advise drivers of oversized vehicles and which routes are appropriate and safe for their use.

DC 7A1-04: Interpretation of forest management activities has been a theme of the byway since its designation. Interpretive signs inform visitors of past and present management activities and their benefits, such as wildlife habitat improvements, stream structures, protection of cultural resources, mining and commercial timber harvesting.

DC 7A1-05: The Tour is routed along paved and improved roads designed for motorcycles, cars, mini-vans and pick-up trucks. Turn-around areas are provided for oversized vehicles. The road is safe and the ride comfortable.

DC 7A1-06: The potential for encounters with other Forest visitors is moderate to high, especially at byway facilities. There are no opportunities for people seeking solitude in remote locations. There is low risk and little need for visitors to rely on personal physical abilities or primitive outdoor recreation skills.

STANDARDS FOR 7A1 - HIGHLANDS SCENIC BYWAY

Terrestrial and Aquatic Species

7A1-001 Existing old fields, wildlife openings, and other habitat improvements for fish and wildlife may be present and maintained. Expansion of existing openings and/or creation of new openings may occur, when compatible with the scenic and interpretive objectives.

Vegetation and Forest Health

7A1-002 In the foreground of the Byway, vegetation within the road corridor is managed to enhance landscape scenery and to ensure public safety.

7A1-003 Control insect and disease outbreaks, when necessary, to protect the scenic values, to reduce hazards to visitors, or for safety or legal reasons. Eradicate recently established non-native pests when possible. Favor the most effective control method.

Timber Management

7A1-004 In the foreground of the Byway, timber harvesting and other management practices may be employed to achieve the objectives of the Highlands Scenic Tour, such as interpretation of resource management including demonstrating harvest techniques. These practices meet a Scenic Integrity Objective of High and are designed to blend with the landscape.

7A1-005 In the middleground of the Byway, a variety of silvicultural practices that demonstrate and interpret forest management practices are employed to meet the desired future condition of this management area. All timber harvest methods are allowed provided they meet a Moderate Scenic Integrity Objective. Ground-based timber harvesting is restricted to slopes less than 35 percent. Cable harvesting systems are not limited to slope.

7A1-006 Salvage is allowed for scenic rehabilitation, fuel reduction, and to capture the economic value of dead, dying and diseased trees.

Recreation

7A1-007 Interpretive facilities and services including trails, signs, viewing areas, self-guided programs, and buildings may be provided to enhance visitor appreciation and understanding of natural, scenic and cultural resources and responsible, sustainable management and protection of those resources.

7A1-008 New non-motorized trails are allowed. Designation of new trails occurs on a case-by-case basis primarily for the purpose of interpretation when there is a demonstrated demand and a partnership with a user group committed to long-term maintenance.

Scenery

7A1-009 Management activities are designed to meet or exceed the following Scenic Integrity Objectives:

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

H=High; M=Moderate

Minerals

7A1-010 These areas are suitable for federal oil and gas leasing with controlled surface use to protect scenic values. Other Federal minerals, including mineral materials, may be available on a case-by-case basis after full consideration of effects on the scenic resources.

Roads

7A1-011 Other than the Tour route itself, only temporary or Traffic Service Level (TSL) D roads may be constructed, which are closed to public use.

Lands and Special Uses

7A1-012 These areas may be suitable for new utility structures, such as new transmission, gas, or water lines, only in the location with the least impacts to scenic integrity.

7A1-013 Issue non-recreational special-use authorizations only where there is a demonstrated public need or benefit and where no other reasonable alternatives exist.

7B - SCENIC CORRIDORS

High quality scenery is provided in sensitive recreational and travelway settings. Examples include areas adjacent to gateway communities, areas around lakes, rivers, and backdrop areas viewed from major travelways and State-designated byways. The area visible during leaf-off for up to one-half mile from either side of the road typically defines the corridor. It also includes the visible middleground of the west face of Massanutten Mountain (a narrow strip) as seen from the Shenandoah Valley along Interstate 81. There are approximately 34,000 acres allocated to this management prescription area across the Forest. The scenic qualities of the landscape in these areas are maintained and their desired condition is described as follows:

Table 4-9. Sensitive Recreational Roads and Travelways

Interstate 64	State Highway 311
Amtrak Railroad Line	State Highway 55
Interstate 81	State Highway 130
US Highway 60	State Highway 39
US Highway 250	State Highway 42
US Highway 33	State Highway 924
US Highway 211	State Highway 850
US Highway 220	State Highway 770
US Highway 501	State Highway 629 north of Douthat State Park
State Highway 259	State Highway 629 south of Douthat State Park
State Highway 605	Forest Service Road 447
State Highway 718	Forest Service Road 125
State Highway 606	Forest Service Road 274
State Highway 687	Monongahela NF Forest Service Road 106
State Highway 56	

EMPHASIS

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

DESIRED CONDITIONS FOR 7B - SCENIC CORRIDORS

DC 7B-01: These areas are characterized by high quality scenery in a setting conducive to a variety of recreational experiences. Human modifications are subordinate to the characteristic landscape. Landscape restoration and rehabilitation to meet high quality scenic conditions are a high priority. Coordination with nearby communities will help provide complementary management of adjoining lands.

DC 7B-02: The area provides exceptional opportunities for motorized recreation, especially scenic driving. The views along the corridors are natural appearing and include a variety of landscape characters, ranging from natural appearing to pastoral and historic/cultural, providing colorful accents and interesting textures, which change with the season. Visitors enjoy viewing wildlife in the occasional openings and meadows scattered throughout the forest. Water, geographic features, and cultural landscapes such as hay fields, grazing livestock, and the occasional rustic cabin provide scenic diversions to the predominately forested landscape. Road corridor improvements and interpretive facilities are evident changes to the natural environment, but these man-made alterations fit well with the character of the surrounding landscape. Other management activities are not evident to the average visitor.

DC 7B-03: The prescription area is easily accessed. Maintaining a good road surface and providing informational signs for protection of the natural and cultural resources as well as the safety and comfort of visitors minimize impacts of visitors within the prescription area.

DC 7B-04: Hiking, mountain biking, and horse trails are present throughout the prescription area. In addition to enjoying the scenery and using various trails, visitors may engage in photography, wildlife viewing, hunting, and fishing. Facilities are designed to harmonize with the desired landscape setting. Facilities might include roads, pullouts, overlooks, parking areas, trailheads, bulletin boards, interpretive kiosks, rail fences, signs, restrooms, and picnic sites. Trails through this area are well-marked and may include features for visitors with special access needs, loop systems, and/or interpretive programs.

DC 7B-05: The sights and sounds of other visitors and motorized vehicles may be present. The opportunity to encounter other visitors is high along roadways, at parking areas, pullouts, and overlooks, but may be moderate to low on trails away from congregated use areas. At points of highly developed recreational use, visitors take on low risk and are not challenged to rely on their own physical abilities and outdoor skills. Once away from the more developed areas, opportunities for solitude are available. In these more remote areas, visitors may take on some risk and be challenged to rely on their own personal physical abilities and primitive recreational skills such as bouldering, climbing, stream fording, and orienteering.

DC 7B-06: Vegetation is influenced both by natural processes and humans. Biological communities are maintained or improved to provide an attractive setting for visitors, while providing for the protection of rare communities and threatened, endangered, sensitive, and locally rare species. Forest management activities maintain the natural characteristics that make the area scenic. Up to 4% of forested land may be in early successional forest conditions created both naturally and purposefully to create visually diverse vegetation stages compatible with scenic values. Low intensity commercial timber harvest is appropriate to maintain the long-term goals of a diverse and vigorous forest with sensitivity to dispersed recreation and scenic values. Relatively longer rotation ages and a lower percentage of early successional forest in these areas reflect a low intensity approach to vegetation management and the higher priority of recreation and scenic values. Timber harvesting operations focus on what is retained in the stand, not on wood fiber production. Timber harvest practices are visually subordinate to the surrounding landscape. In the foreground of these areas, management activities are rarely evident to the casual observer.

DC 7B-07: These areas are characterized by a predominance of mid- and late-successional forests with a high to intermediate tolerance to shade. Forest structure varies according to ecological factors, but largely consists of a mature overstory of hardwoods, occasionally mixed with pines, a fairly open midstory, and a well-developed herbaceous and shrubby understory. Understory vegetation includes a variety of native deciduous and evergreen flowering trees, shrubs and wildflowers. Even- and uneven-aged forest communities are managed throughout the area, along with continued development of medium and small patches of late successional to old growth forest communities.

DC 7B-08: Wildlife species associated with mid- to late-successional deciduous forest habitats are expected to inhabit this area. Wildlife viewing opportunities are maintained and expanded through cultivation, mowing, and burning of openings and pastoral areas.

STANDARDS FOR 7B - SCENIC CORRIDORS

Terrestrial and Aquatic Species

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

Vegetation and Forest Health

- 7B-003 Forest structure is managed to favor flowering trees and shrubs.
- 7B-004 Control insect and disease outbreaks, when necessary, to protect the scenic values, to reduce hazards to visitors, or for safety or legal reasons. Eradicate recently established non-native pests when possible. Favor the most effective control method.
- 7B-005 Allow vegetation management activities to:
- Enhance or rehabilitate scenery, including:
 - Create aesthetically desired stand structure and species composition including a pleasing mosaic of tree species of various densities and stem sizes, park-like effects, and enhancement of fall color species;
 - Feature flowering trees, character trees, and shrub species;
 - Maintain open areas, old field habitats, pastoral settings, and vistas that enhance the scenic qualities of the corridor;
 - Maintain developed recreation facilities, including roads and trails;
 - Enhance both game and non-game wildlife habitat;
 - Improve threatened, endangered, sensitive, and locally rare species habitat;
 - Maintain rare communities and species dependent on disturbance;
 - Reduce fuel buildups;
 - Minimize impacts from insect or disease outbreaks and rehabilitate damaged areas;
 - Control non-native invasive vegetation; or
 - Provide for public health and safety.
- 7B-006 Salvage of dead, dying and damaged trees using ground based or helicopter logging can occur in scenic corridors and viewsheds to provide for scenic rehabilitation and public safety.

Timber Management

- 7B-007 Timber production is a suitable use in these areas. Some portions of the areas are identified as unsuitable for timber production due to the timber suitability analyses in Appendix C. Timber harvest practices are modified to recognize and enhance the aesthetic and recreational values of these lands.
- 7B-008 Group selection, individual tree selection, thinning, and shelterwood harvests are predominately used.
- 7B-009 Clearcutting may only be used to open up vistas, create spatial diversity along travelways, decrease straight line effect of cleared utility corridors, create watchable wildlife openings, for insect and disease suppression, or for scenic rehabilitation.

Wildland Fire Management

- 7B-010 Vegetation management may be accomplished with wildfires and prescribed fire along with mechanical treatments as an appropriate method of reducing costs associated with these activities.

Recreation

- 7B-011 Interpretive services including trails, signs, viewing areas, self-guided programs, and buildings may be provided to enhance the understanding of, and appreciation for the natural environment, and cultural resources.

Scenery

7B-012 Management activities are designed to meet or exceed the following Scenic Integrity Objectives:

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

H=High; M=Moderate

7B-013 Short-term scenic integrity objectives of rehabilitation and enhancement may be used until scenic integrity objectives are achieved.

Minerals

7B-014 These corridors and viewsheds are suitable for federal oil and gas leasing with controlled surface use to protect the scenic resources and values. Other Federal minerals may be available on a case-by-case basis after full consideration of effects on scenic resources and values.

7B-015 Permit mineral materials for commercial, personal, free, and administrative use purposes with conditions to protect the scenic resources and values.

7B-016 Permit new borrow pits, provided they meet the scenic integrity objective. Rehabilitate or reclaim existing borrow pits that are currently not meeting the scenic integrity objective, after coordinating between resources to determine if a current need for borrow exists by the Forest Service or partner State or County agency.

7B-017 Consider opportunities to provide interpretation of interesting geologic or fossil features along roadsides, including in borrow pits.

Roads

7B-018 Permit new access roads, provided they quickly enter and leave the seen area and do not parallel existing travelways.

7B-019 All roads, facilities, and signing are designed to blend in with surroundings.

Lands and Special Uses

7B-020 These areas are unsuitable for designation of new utility corridors, utility rights-of-way, or communication sites. Continue existing uses. Require necessary mitigation techniques, including screening, feathering, and other vegetation management techniques to mitigate the visual and other impacts of new or upgraded, utility corridors or communication sites.

7B-021 Allow agricultural special-use authorizations to maintain open and pastoral spaces.

7B-022 Authorize other special uses if consistent and compatible with the goals and objectives of this area.

7B-023 These areas are unavailable for wind energy development.

7C - ATV USE AREAS

There are approximately 10,000 acres allocated to this management prescription area on the Forest. Three areas provide 64 miles of trails systems, including loop riding opportunities, for All-Terrain Vehicle (ATV) use as follows.

Table 4-10. ATV Areas

Ranger District	ATV Area Name	Existing Route Mileage	Allowed Uses
North River	Rocky Run	10	ATVs, 4WD*, motorbikes, mountain bikes
Lee	Taskers Gap - Peters Mill Run	36	ATVs, 4WD, motorbikes, mountain bikes
Pedlar	South Pedlar	18	ATVs, motorbikes, mountain bikes

*4WD vehicles are allowed on only portions of the Rocky Run Trail.

These are the only areas where ATV use is authorized. Licensed OHV use may occur on any open forest road, so a variety of opportunities exist for high-clearance and 4-wheel drive (4WD) vehicles on open roads.

EMPHASIS

Provide for motorized recreation opportunities in designated areas. These use areas and corridors contain routes designated specifically for licensed full size off-highway vehicle, ATV, and/or motorcycle users. The George Washington and Jefferson National Forests’ Motorized Vehicle Use Map (MVUM) indicates the types of vehicles allowed on each route and in each area and any seasonal restrictions that apply on those routes and in those areas. Designated ATV use areas are managed to mitigate soil, water, and wildlife impacts. Facilities such as trailheads are provided to enhance the quality of the recreational experience and provide access to designated routes.

DESIRED CONDITIONS FOR 7C - ATV USE AREAS

DC 7C-01: ATV use areas are managed to provide a variety of motorized recreation opportunities on identified routes in natural appearing settings. Routes are maintained, improved, or expanded to meet local demands within the capability of the environment. Trail difficulty levels vary to accommodate a variety of desires and abilities within the capabilities of the environment. Users are adequately advised of trail difficulty levels and hazards. Support facilities, including trailheads, parking lots, restrooms, water access, and information boards, are well designed to meet the needs of the visitor. Use areas, route information, and regulations are provided to make the visitors’ experience more enjoyable. These routes and areas are managed and monitored to absorb moderate to high levels of use while protecting soil, water, and air resource conditions.

DC 7C-02: Maintenance is performed to protect the routes and minimize effects to soil and water resources. Routes may be, and typically are, closed seasonally and during or immediately following periods of significant rainfall to protect resources. Off-route and other unauthorized OHV use are not allowed. When such use occurs to a chronic degree, the routes are closed permanently or until the situation is corrected. New routes are considered for development only when there is a demonstrated need and public interest, one or more partners committed to maintenance, and the air, soil, water and other biological resources can be protected.

DC 7C-03: ATV use areas provide primarily motorized recreation opportunities. While motorized recreation is emphasized on designated routes, other trail routes within the area could be used for hiking, mountain biking, and horseback riding. Other recreation opportunities such as hunting, fishing, and berry picking occur within the prescription area adjacent to the designated route corridors. Physical impacts are confined to the immediate trail or road profile and do not spread beyond. Though physical impacts from ATV use are confined to the immediate road or trail environment, sounds of motorized vehicles may be audible in other sections of the prescription area.

DC 7C-04: The landscape character is natural appearing with variations created by the recreational facilities. Recreationists enjoy traveling routes through a variety of landscapes. Along many of the routes, the views are restricted to the immediate foreground by vegetation and natural landform, but occasional openings reveal middleground or distant background vistas. Constructed routes blend well with the natural environment. Small created openings in the forest canopy may be apparent and visitors may see evidence of resource management activities; however, treatments blend with the natural landscape and vegetation diversity is enhanced over time. Constructed facilities are visually subordinate to the land.

DC 7C-05: A mix of forest successional stages will characterize use areas. Up to 16% of forested land may be in early successional forest conditions; however, there are no early successional wildlife habitat objectives associated with this prescription. Lands within this prescription area are classified as suitable for timber production. Roads used or constructed to facilitate vegetation treatment are managed to provide non-conflicting access for both timber harvest and motorized recreation uses.

DC 7C-06: Wildlife species associated with early successional forest habitats and mixed landscapes are expected to inhabit these areas.

STANDARDS FOR 7C - ATV USE AREAS

Roads

- 7C-001** When unacceptable resource damage occurs, the Forest Service will meet and coordinate with volunteer groups and partner organizations to identify the cause and to develop and implement an action plan to prevent further occurrence and to repair the damage. Repair, reconstruction, and relocation of portions of routes are favored over closing the entire route. When chronic problems occur, the entire route may need to be closed.
- 7C-002** At a minimum, post at trailheads messages on responsible trail riding (such as Ride 4 Keeps and TreadLightly!), trail etiquette, allowable trail uses (ATV, motorcycle, OHV, etc.), trail map, and other information for visitor safety and resource protection.

Water, Soil, and Air

- 7C-003** The trail system within each ATV use area must have a monitoring plan.

Terrestrial and Aquatic Species

- 7C-004** Existing old fields, pastoral areas, wildlife openings, and other wildlife habitat improvements may be present and maintained. Expansion of existing openings and/or creation of new openings may occur. Non-invasive non-natives are sometimes used when establishing food plants for wildlife, but native species are preferred. Some openings provide permanent shrub/sapling habitats as a result of longer maintenance cycles.
- 7C-005** Favor the retention of large (>20" dbh) standing snags and den trees when implementing silvicultural treatments.

Vegetation and Forest Health

- 7C-006** The forest health strategy is to diminish the occurrence of pest problems by managing host-type conditions at low hazard. Use appropriate and practical suppression of pests, both non-native and native, with all available tools as the normal practice.
- 7C-007** Salvage, cut and leave, and pruning are rapid and complete to protect the health and safety of visitors.

Timber Management

- 7C-008 Timber production is a suitable use in these areas. Some portions of the areas are identified as unsuitable for timber production due to the timber suitability analyses in Appendix C.
- 7C-009 Use even and uneven-aged silvicultural systems. Thinning and group selection may be employed to increase the structural diversity of the prescription area.
- 7C-010 Regeneration units range from 5 to 40 acres in size.
- 7C-011 Regeneration harvest areas are primarily coppice with reserves with 15- 25 square feet of basal area per acre left to ensure adequate sunlight for oak regeneration and two-aged silvicultural systems which leave 20-40 square feet of basal area per acre. In order to provide vertical diversity and future mast production, leave trees with a mean diameter of the codominant trees in the stand.
- 7C-012 Clearcut harvest systems occur when necessary to achieve specific wildlife habitat objectives. Thinning and group selection silvicultural systems are also employed to provide the structural diversity required by some species within this habitat association.

Wildland Fire Management

- 7C-013 Wildfire and prescribed fire are allowed to: create openings that stimulate soft mast production and browse; encourage oak sprouting; maintain, restore, and enhance native forest communities; ensure the continued presence of fire-dependent ecosystems; improve threatened, endangered, sensitive, and locally rare species habitat; and reduce fuel buildups. It is also used in conjunction with site preparation to accomplish silvicultural treatments.
- 7C-014 Implement needed restorative measures to travelways and trails after wildfires and prescribed burning. Firelines are obliterated as soon as practicable so they do not become unplanned trails.

Recreation

Trail Design

- 7C-015 Design and locate the trail network to discourage illegal access to areas off the designated routes. Full advantage is taken of natural and man-made features to use as physical barriers to illegal use.
- 7C-016 Prioritize new route locations as follows: 1) Existing open or closed system roads, 2) Closed or obliterated roads, 3) New construction.
- 7C-017 Construct trail and road systems that include both single-track, narrow trails for the motorcycle and ATV user as well as roads that may be used for larger four-wheel drive vehicles and for timber removal. To the extent feasible, design loop trails of varying skill levels with bypasses or return routes that allow users the option to avoid sections rated beyond their skill and/or comfort level.
- 7C-018 Minimize user conflicts and safety hazards that may exist with other recreation users and between full size four-wheel drive vehicle users and ATV and motorcycle users, through trail design, layout, and signing.
- 7C-019 Minimize adverse effects on the land and resources, through trail design, layout, and management. Minimize damage to soil, watershed, vegetation, wildlife habitat, or other natural, cultural, and historical resources, and disturbance of wildlife on the public lands.
- 7C-020 Plan timber removal concurrently with possible route locations and opportunities.

7C-021 Obliterate decommissioned routes through restoration to their natural profile and revegetate to prevent continued use.

Trail Management

7C-022 Actively recruit volunteer organizations through the Adopt-A-Trail and other partner programs to become involved in the long-term construction and maintenance of trail systems.

7C-023 Relocate or close routes when unacceptable adverse effects occur or are likely to occur. The routes or trails remain closed until the adverse effects are eliminated and until measures are implemented to prevent recurrence.

7C-024 Relocate or close existing routes located in or adjacent to sensitive areas. Restore and revegetate unneeded old routes to their natural profile.

7C-025 Trail system designs with a series of loops are encouraged. This results in a more compact trail system that confines impacts and provides more options for users of varying skill levels.

Public Safety and Law Enforcement

7C-026 Promote public safety and effective law enforcement.

7C-027 Provide sanitary facilities in ATV areas where practical and needed for resource protection.

7C-028 Within ATV areas, provide public information that, as a minimum, includes maps showing open, closed, and restricted routes and areas, as well as the conditions of such use.

Monitoring

7C-029 The effects of vehicle use, noise levels, enforcement of restrictions and closures are closely monitored and evaluated.

Scenery

7C-030 Management activities are designed to meet or exceed the following Scenic Integrity Objectives:

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

H=High; M=Moderate; L=Low

7D - CONCENTRATED RECREATION ZONES

Since its earliest days, the George Washington National Forest has offered facilities to the public for overnight and day use recreation activities. Under the New Deal of the 1930s and early 1940s, the Civilian Conservation Corps constructed multiple recreation sites across the National Forest. Several decades later, in 1962, the Outdoor Resources Review Commission's report to Congress and the President resulted in appropriated funds dedicated to providing more developed recreation facilities on public lands, including the George Washington NF. The 1987 President's Commission on Americans Outdoors report also recommended additional outdoor recreation opportunities and facilities be provided on public lands, although the funding for implementation was minimal compared to the earlier employment and recreation initiatives. There are approximately 700 acres allocated to this management prescription area.

Today, the George Washington National Forest offers the following developed recreation facilities:

- 21 campgrounds and complexes ranging from highly developed to primitive;
- 1 horse camp, primitive;
- 10 picnic sites;
- 7 swimming beaches;
- 2 boat launches on Lake Moomaw where gas powered motors are allowed;
- 9 boat launches on rivers, lakes and ponds that do not allow gas powered motors;
- 10 interpretive sites;
- 4 observation sites; and
- 4 shooting ranges.

In addition to these developed recreation sites, there are numerous developed trailhead parking areas that provide access to trails and multiple dispersed recreation opportunities.

EMPHASIS

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

DESIRED CONDITIONS FOR 7D - CONCENTRATED RECREATION ZONES

DC 7D-01: Visitors are able to choose from a wide variety of recreation opportunities in high quality, well maintained developed or dispersed settings. Campgrounds, picnic sites, boat ramps, river access sites, swimming beaches, interpretive sites, rifle ranges, trailheads and concentrated trail systems, are all examples of facilities found in Concentrated Recreation Zones. Other facilities consistent with the mission and complimentary to the ecosystem may also be provided. Constructed facilities are visually subordinate to the valued landscape scenery and are constructed and maintained to a development scale appropriate to the recreational opportunity spectrum class. Facilities that provide for protection of resources or user comfort (depending on the development scale of the recreation site), are provided within the developed recreation areas. Toilet facilities may be provided outside of the developed areas if needed for the protection of resources. Outdoor skills are generally of low importance except where knowledge of specialized activities, (i.e. boating or horseback riding) is critical. Trails through this area are well-marked and may include features for visitors with special access needs, loop systems, and/or interpretive programs. Motorized access and their support facilities (i.e. roads, parking lots, or water access) are emphasized, although non-motorized experiences (i.e. walking and viewing nature) are also often present.

DC 7D-02: Use may be highly concentrated in some spaces or relatively uncrowded in other sections of Concentrated Recreation Zones. Recreation information and regulations are provided to make the visitors' experience more enjoyable. Interpretive programs may also be offered to enhance the visitor's educational and

recreational experience. Access to fishing, hunting, and nature study are emphasized. Fish stocking is appropriate for Concentrated Recreation Zones.

DC 7D-03: The landscape character is a cultural enclave in natural appearing surroundings. A visually appealing landscape is emphasized by featuring special attractions like large rock outcroppings and waterfalls. Management activities maintain a healthy mid-successional forest of mixed hardwoods, hemlocks, and white pines. Understory vegetation includes a variety of native deciduous and evergreen flowering trees, shrubs and wildflowers. These areas may also include natural appearing open areas, balds, or pastoral landscapes. The scenic integrity objectives are in the upper values of high to moderate.

DC 7D-04: Some of these concentrated recreation areas are within the foreground of the Appalachian National Scenic Trail. Within the foreground of the Appalachian Trail, management practices are designed to achieve the desired condition of this management prescription as well as protect the Appalachian Trail experience, strengthen the role of volunteers and volunteer organizations, provide opportunities for high quality outdoor recreation experiences, and provide for the conservation and enjoyment of the nationally significant scenic, historic, natural and cultural qualities of the land through which the Appalachian Trail passes.

DC 7D-05: Vegetation is influenced to a large degree by humans, both through management for aesthetics and safety and through the high level of recreation use. Commercial timber harvest is appropriate to maintain the long-term goals of a diverse and vigorous forest emphasizing recreation, scenery, and visitor safety. Timber harvesting operations focus on what is retained in the forest, not on wood fiber production. Timber harvest is carefully timed and designed to be subtle. Integrated pest management is used to eradicate or suppress insects, diseases, and non-native, invasive vegetation.

DC 7D-06: Even and uneven-aged forest communities continue to develop throughout the area, along with medium and small patches of late successional to old growth forest communities. Up to four percent of forested land may be in early successional forest conditions created both naturally and purposefully when compatible with the recreation and scenic objectives of the concentrated recreation area; however, no early successional habitat objectives are associated with this prescription. Wildlife viewing opportunities are maintained and expanded through livestock grazing, cultivation, mowing, and burning of openings and pastoral areas.

STANDARDS FOR 7D - CONCENTRATED RECREATION ZONES

Terrestrial and Aquatic Species

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

Vegetation and Forest Health

- 7D-004** The forest health strategy is to prevent the occurrence of pest problems by managing host-type conditions at low hazard. Aggressive suppression of pests, both non-native and native, with all available integrated pest management tools is normal practice. Favor the most effective control method. Salvage, cut and leave, and pruning are rapid and complete to protect the health and safety of visitors and facilities.

- 7D-005 Allow vegetation management activities to:
- Maintain developed and dispersed recreation facilities, including roads and trails;
 - Maintain open areas, old field habitats, pastoral settings, and vistas that enhance the scenic qualities of the recreation area;
 - Enhance or rehabilitate scenery, including:
 - Create aesthetically desired stand structure and species composition including a pleasing mosaic of tree species of various densities and stem sizes, park like effects, and enhancement of fall color species;
 - Feature flowering trees, character trees, and shrub species;
 - Enhance both game and non-game wildlife habitat;
 - Minimize impacts from insect or disease outbreaks and rehabilitate damaged areas;
 - Reduce fuel buildups;
 - Control non-native invasive vegetation; or
 - Provide for public health and safety.
- 7D-006 Prepare vegetation management plans that emphasize damage prevention practices for developed recreation areas.

Timber Management

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

Wildland Fire Management

- 7D-009 Wildfires are generally suppressed to minimize acreage burned due to high levels of public use and infrastructure investments in these areas.
- 7D-010 Prescribed fire is permitted for vegetation management to meet scenery, landscape character and hazard fuels reduction objectives. In developed recreation areas, evidence of firelines is rehabilitated as soon as practicable.
- 7D-011 Implement needed restorative measures to trails and travelways after wildland fire management. Firelines are rehabilitated as soon as practicable.

Recreation

- 7D-012 Concentrated-use areas are inspected annually and high-risk conditions are corrected, identified to the public, or the area is closed.
- 7D-013 Where needed and practical, restrooms are provided.
- 7D-014 High-risk site conditions that develop during the use season are mitigated or the site is closed.
- 7D-015 These areas are unsuitable for designation of All-Terrain Vehicle use areas, although trailheads and connecting trails to adjacent ATV use areas are allowed.

Appalachian National Scenic Trail

7D-016 Within the foreground of the Appalachian Trail, all activities will be planned and carried out in cooperation with the appropriate Appalachian Trail management partner(s). See Management Prescription Area 4A for additional management direction applicable to this corridor.

Scenery

7D-017 The landscape character is natural appearing, pastoral, or historic with variations created by the recreational facilities.

7D-018 Management activities in concentrated recreation zones, except rifle ranges, are designed to meet or exceed the following Scenic Integrity Objectives:

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

H=High; M=Moderate

7D-019 Rifle ranges are managed to meet or exceed a Low scenic integrity objective across all scenic classes.

Roads

7D-020 All roads, facilities, and signing are designed to blend in with surroundings.

7D-021 The standard of road is commensurate with the recreation development level.

7D-022 Existing open public roads are maintained at or above current levels to provide for public access and safety.

Minerals

7D-023 These areas are suitable for federal oil and gas leasing with controlled surface use to protect the recreation resources and values. Other Federal minerals may be available on a case-by-case basis after full consideration of effects on recreation, scenery, and public safety.

7D-024 These areas are not available for mineral materials for commercial, personal, or free use purposes. Administrative use of mineral materials is allowed when: a) the materials are used within the recreation area itself; and b) use is necessary to protect the resources and values of the area.

Lands and Special Uses

7D-025 These areas are unsuitable for new linear rights-of-way, communication sites or commercial wind generation, with the exception that local electrical distribution lines are allowed. Other special uses are authorized if consistent and compatible with the goals and objectives of these areas.

7E - DISPERSED RECREATION AREAS

A number of developed recreation sites serve as gateways for dispersed recreation opportunities. In many cases, the developed recreation sites were developed to serve the needs of dispersed recreationists and protect resources. Interconnected trails and/or multiple loop trails provide opportunities for more concentrated dispersed recreation around or tangent to these recreation sites.

Dispersed Recreation Areas are divided into two Management Prescriptions based on their suitability for timber production. Most of the Dispersed Recreation Areas are in Management Prescription 7E1 which is unsuitable for timber production (approximately 24,000 acres). The Shaws Fork area and portions of the North River and Hidden Valley areas are in Management Prescription 7E2 (approximately 4,000 acres) which are suitable for timber production to facilitate the use of timber harvest to improve habitat for game species. The specific areas are as follows:

Table 4-11. High Density Dispersed Recreation Areas

Ranger District	Dispersed Recreation Area
North River	Brandywine (7E1)
	Hone Quarry (7E1)
	North River (7E1 and 7E2)
	Shaws Fork (7E2)
	Hogpen (7E1)
James River	Longdale (7E1)
	Children's Forest
Lee	Trout Pond (7E1)
	Elizabeth Furnace (7E1)
Pedlar	Sherando (7E1)
	Pedlar River (7E1)
	Crabtree Meadows (7E1)
	Shoe Creek (7E1)
	St. Mary's (7E1)
Warm Springs	Walton Tract (7E1)
	Hidden Valley (7E1 and 7E2)
	Lake Moomaw (7E1)

EMPHASIS

These are areas of non-formal camping and recreational use in various locations across the forest. 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.

DESIRED CONDITIONS FOR 7E - DISPERSED RECREATION AREAS

DC 7E-01: These areas are characterized by easy access and are capable of sustaining a relatively high number of recreationists in a manner that protects the surrounding water, soil, vegetation, and wildlife. Visitors enjoy the natural appearing landscape character of these settings and are able to choose from a wide variety of well-maintained nature-based recreation opportunities. High quality forest roads and well-marked trails through these areas provide easy access. Some trails are maintained to be universally accessible and will serve families with children, seniors, urban visitors and people with disabilities. Management is designed to meet the growing demands for pleasure driving, day hiking, mountain biking, horseback riding, dispersed

camping, backpacking, hunting, fishing, nature study, and nature photography and to showcase high quality scenery from travelways and concentrated use areas maintained through low intensity, planned management activities.

DC 7E-02: Trails through this area are well-marked and may include features for visitors with special access needs, loop systems, and/or interpretive programs. Facilities within these areas may include portable or permanent toilets, trash receptacles, fire grills, signs, or vehicle barriers; however, facilities are generally rare and are only provided for health and sanitation or to protect the area from resource damage.

DC 7E-03: The sights and sounds of other visitors and motorized vehicles are normally present. The opportunity to encounter other visitors is high along roadways, at parking areas, pullouts, and overlooks, but may be moderate to low on trails away from congregated use areas. Visitors are rarely challenged to rely on their own physical abilities and outdoor skills. Once away from open roads and trailheads, opportunities for solitude are available. In these more remote areas, visitors may take on some risk and be challenged to rely on their own personal physical abilities and primitive recreational skills such as bouldering, climbing, stream fording, and orienteering.

DC 7E-04: Roads are generally open to motorized activities. Non-motorized trails are maintained, improved, or expanded to meet local demands provided watershed and ecosystem health are not negatively affected. Limitations of use are implemented if any dispersed activity results in, or is expected to result in, negative affects to watershed or ecosystem health.

DC 7E-05: A mix of forest successional stages characterizes these areas. Infrequent pastoral and historic/cultural enclaves may also exist. From primary travelways and concentrated use areas, the valued character of these landscapes appears intact with no noticeable deviations.

DC 7E-06: Wildlife species associated with mid- to late-successional deciduous forest habitats and mixed landscapes are expected to inhabit these areas. These areas provide excellent opportunities for wildlife viewing and hunting.

DC 7E-07: Prescribed fire, wildfire, integrated pest management and commercial timber harvest are appropriate to manage vegetation. Wildland fires are used to restore and maintain historic fire regimes. Wildlife viewing opportunities are maintained and expanded through cultivation, mowing, and burning of openings and pastoral areas.

DESIRED CONDITIONS FOR 7E1 DISPERSED RECREATION AREAS – NOT SUITABLE FOR TIMBER PRODUCTION

DC 7E-08: These areas are not suitable for timber production. Openings may be maintained and some early successional habitat will be present from natural disturbances and fire.

DESIRED CONDITIONS FOR 7E2 DISPERSED RECREATION AREAS –SUITABLE FOR TIMBER PRODUCTION

DC 7E-09: Shaws Fork and the portions of North River and Hidden Valley that comprise this management prescription area are suitable for timber production in order to provide a greater diversity of wildlife habitats for hunting and wildlife viewing. Timber harvesting operations focus on what is retained in the forest, not on wood fiber production. Timber harvest is carefully timed and designed to be subtle. Group selections, individual tree selections, thinnings, and shelterwood harvests are predominately used.

STANDARDS FOR 7E - DISPERSED RECREATION AREAS

Terrestrial and Aquatic Species

- 7E-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.
- 7E-002 Wildlife and fisheries habitat improvements are allowed to enhance wildlife viewing, hunting, and fishing opportunities in accordance with scenic integrity objectives. Watchable wildlife species habitat improvements are encouraged.

Vegetation and Forest Health

- 7E-003 Native forest insect and disease outbreaks are controlled only to prevent unacceptable damage to resources on adjacent land or to protect threatened, endangered, and sensitive species. Non-native, invasive insects and diseases may be eradicated or suppressed to prevent a loss of the old growth community. Favor biological control methods.
- 7E-004 Eradicate non-native invasive plants when the infestations are isolated. Use approved hand-applied pesticides, when necessary.
- 7E-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;
 - Reduce insect and disease hazard;
 - Control non-native invasive vegetation.
 - Provide for public health and safety;
 - Meet trail construction and maintenance needs;
 - Maintain, enhance, or restore the diversity and complexity of native vegetation;
 - Maintain recreation facilities, including roads and trails;

Timber Management – Areas Unsuitable for Timber Production - 7E1

- 7E-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.
- 7E-007 Salvage of dead and dying trees is only allowed if the recreation resource is not impaired by the salvage operation.

Timber Management – Areas Suitable for Timber Production – 7E2 (Shaws Fork, Portions of North River and Hidden Valley)

- 7E-008 Timber production is a suitable use in these areas where hunting recreation and watchable wildlife are emphasized. Some portions of the area are identified as unsuitable for timber production as described in Appendix C.

7E-009 Even and uneven aged management systems are allowed, with an emphasis on group selection, thinning, two-aged and shelterwood treatments. Commercial thinning is commonly used to develop park-like stands and larger trees for aesthetic reasons.

Wildland Fire Management

7E-010 Vegetation management may be accomplished with wildfires and prescribed fire along with mechanical treatments as an appropriate method of reducing costs associated with these activities.

7E-011 Implement needed restorative measures to travelways and trails after wildfire and prescribed burning. Firelines are rehabilitated as soon as practicable.

Recreation

7E-012 New facilities such as trails, trailheads, toilets, and parking areas are allowed, but are considered on a case-by-case basis, commensurate with the public use of the area; existence of partnership(s) with user group(s) committed to providing long-term maintenance; air soil and water quality can be protected; and the new facility is deemed sustainable by the national forest.

Scenery

7E-013 Management activities are designed to meet or exceed the following Scenic Integrity Objectives:

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

H=High; M=Moderate

7E-014 Management activities are designed to meet or exceed a High Scenic Integrity Objective in semi-primitive non-motorized areas within this prescription area.

Roads

7E-015 Existing open public roads are maintained at or above current levels to provide for public access and safety.

7E-016 All roads, facilities, and signing are designed to blend in with surroundings.

7F - BLUE RIDGE PARKWAY VISUAL CORRIDOR

The Blue Ridge Parkway was established June 30, 1936 as a recreation-oriented motor road connecting Shenandoah National Park in Virginia with the Great Smoky Mountains National Park in North Carolina. The Parkway itself is administered by the USDI National Park Service as an elongated park for public use and enjoyment through safe, uninterrupted, leisure motor travel, which provides for the conservation and interpretation of the natural and cultural resources of the Southern Appalachian Mountains. The Blue Ridge Parkway is known for spectacular mountain and valley vistas, quiet pastoral scenes, sparkling waterfalls, colorful wildflower and foliage displays, and its interpretation of mountain history and culture. There are approximately 4,000 acres in this management prescription area.

EMPHASIS

The emphasis of this management prescription is to manage National Forest System lands that can be seen from the Blue Ridge Parkway in a manner which positively contributes to the Parkway visitor's experience along this motorized national treasure. Views from Parkway overlooks appear natural and retain High to Very High scenic integrity.

DESIRED CONDITIONS FOR 7F - BLUE RIDGE PARKWAY VISUAL CORRIDOR

DC 7F-01: The Blue Ridge Parkway visual corridor provides exceptional opportunities for motorized recreation, including scenic driving. The views along the Parkway are natural appearing and include a variety of landscape characters, ranging from a continuous overstory canopy of large hardwoods and pines, to pastoral, cultural, rural, and suburban. Urban landscapes may be seen in the background from some scenic overlooks. In the foreground, understory vegetation and ground cover provide colorful accents and interesting textures for each season. Road corridor improvements and interpretive facilities are evident changes to the natural environment, but these man-made alterations fit well with the character of the surrounding landscape. Forest management activities are not evident to the average visitor.

DC 7F-02: Vegetation is influenced both by natural processes and humans. Low intensity commercial timber harvest is appropriate to maintain the long-term goals of a diverse and vigorous forest with sensitivity to dispersed recreation and scenic values. Relatively longer rotation ages and a lower percentage of early successional forest in these areas reflect a low intensity approach to vegetation management and the higher priority of protecting the values of the Blue Ridge Parkway. Structural diversity within mixed mesophytic and dry-to-mesic oak forest communities is enhanced through commercial and non-commercial vegetation management activities. Up to 4% of forested land may be in early successional forest conditions created both naturally and purposefully. Timber harvesting operations focus on what is retained in the stand, not on wood fiber production. Timber harvest practices are modified to recognize the aesthetic and recreational values of these lands. Group selections, individual tree selections, thinnings, and light shelterwood harvests are predominately used. Clearcutting and shelterwood harvests leaving less than 35 square feet of basal area per acre are only used within areas seldom seen from the Parkway and its overlooks.

DC 7F-03: Prescribed fire, wildlife habitat improvements, and integrated pest management are also appropriate management tools to manage vegetation. Wildfires are managed in cooperation with the National Park Service using an appropriate management response to protect Parkway resources and visitor safety.

DC 7F-04: These areas are characterized by a predominance of mid- and late-successional forests with a high to intermediate tolerance to shade. Forest structure varies according to ecological factors, but largely consists of a mature overstory of hardwoods, occasionally mixed with pines, a fairly open midstory, and a well-developed herbaceous and shrubby understory. Understory vegetation includes a variety of native deciduous and evergreen flowering trees, shrubs and wildflowers. Even- and uneven-aged forest communities are managed throughout the area, along with continued development of medium and small patches of late successional to old growth forest communities. Up to 4% of forested land may be in early successional forest conditions created both naturally and purposefully when compatible with the scenic objectives of the Parkway corridor; however, no early successional habitat objectives are associated with this prescription. Wildlife

viewing opportunities are maintained and expanded through cultivation, mowing, and burning of openings and pastoral areas.

STANDARDS FOR 7F - BLUE RIDGE PARKWAY VISUAL CORRIDOR

General

- 7F-001 All management activities within this corridor must be compatible with maintaining, rehabilitating, or enhancing views from the Blue Ridge Parkway.
- 7F-002 Short-term scenic integrity objectives of rehabilitation and enhancement may be used until scenic integrity objectives are achieved.

Terrestrial and Aquatic Species

- 7F-003 Wildlife and fisheries habitat improvements are allowed to enhance wildlife viewing, hunting, and fishing opportunities in accordance with scenic integrity objectives. Watchable wildlife species habitat improvements are encouraged.
- 7F-004 Existing old fields, pastoral areas, and wildlife openings may be present and maintained. Expansion of existing openings and/or creation of new openings may occur. Non-invasive non-natives are sometimes used when establishing food plants for wildlife, but native species are preferred. Some openings provide permanent shrub/sapling habitats as a result of longer maintenance cycles.
- 7F-005 Up to 4% of this prescription area may be in early successional habitat conditions.

Vegetation and Forest Health

- 7F-006 Forest structure is managed to favor flowering trees and shrubs.
- 7F-007 Control insect and disease outbreaks, when necessary, to protect the scenic values, to reduce hazards to visitors, or for safety or legal reasons. Eradicate recently established non-native pests when possible. Favor the most effective control method.
- 7F-008 Allow vegetation management activities to:
- Maintain developed recreation facilities, including roads and trails;
 - Enhance or rehabilitate scenery, including:
 - Create aesthetically desired stand structure and species composition including a pleasing mosaic of tree species of various densities and stem sizes, park-like effects, and enhancement of fall color species;
 - Feature flowering trees, character trees, and shrub species;
 - Enhance both game and non-game wildlife habitat;
 - Improve threatened, endangered, sensitive, and locally rare species habitat;
 - Maintain rare communities and species dependent on disturbance;
 - Reduce fuel buildups;
 - Reduce insect and disease hazard;
 - Control non-native invasive vegetation; or
 - Provide for public health and safety.
- 7F-009 Salvage is allowed for scenic rehabilitation, fuel reduction, and to capture the economic value of dead, dying and diseased trees.

Timber Management

- 7F-010 Areas seldom seen from the Blue Ridge Parkway and its associated overlooks are suitable for timber production. The remainder of this corridor is unsuitable for timber production. Vegetation management may be accomplished with commercial timber sales as an appropriate method of reducing costs associated with these activities.
- 7F-011 Use even and uneven-aged silvicultural systems. Uneven-aged forest management (e.g. group selection, individual tree selection) practices are designed to result in forest structure and composition consistent with late-successional deciduous forest habitats over the long-term.
- 7F-012 Regeneration units range from 2 to 25 acres in size, clustered on the landscape.
- 7F-013 Regeneration harvest areas are primarily coppice with reserves with 15-25 square feet of basal area per acre left to ensure adequate sunlight for oak regeneration and two-aged silvicultural systems which leave 20-40 square feet of basal area per acre. In order to provide vertical diversity and future mast production, leave trees with a mean diameter of the codominant trees in the stand.
- 7F-014 Clearcut harvest systems occur when necessary to achieve specific wildlife habitat objectives. Thinning and group selection silvicultural systems are also employed to provide the structural diversity required by some species within this habitat association.

Wildland Fire Management

- 7F-015 Wildfires are managed in cooperation with the National Park Service using a response that will protect Parkway resources and visitor safety.
- 7F-016 Prescribed fires and wildfire management are coordinated with the National Park Service to accomplish both Park Service and Forest Service management objectives in this corridor and adjacent management prescriptions.

Recreation

- 7F-017 Interpretive services including trails, signs, viewing areas, and self-guided programs may be provided to enhance the understanding of, and appreciation for the natural environment, cultural resources, and the Parkway's special features.

Scenery

- 7F-018 Management activities are designed to meet or exceed the following Scenic Integrity Objectives:

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

H=High; M=Moderate

Range

- 7F-019 Livestock grazing is not permitted.

Minerals

- 7F-020 The Blue Ridge Parkway corridor is suitable for federal oil and gas leasing with controlled surface use to protect the views and other values of the corridor. Other Federal minerals may be available on a case-by-case basis after full consideration of effects on scenic resources and other values.
- 7F-021 Permit mineral materials for commercial, personal, free, and administrative use purposes with conditions to protect the scenic resources and other values.
- 7F-022 Permit new borrow pits, provided they meet the scenic integrity objective. Rehabilitate or reclaim existing borrow pits that are currently not meeting the scenic integrity objective.

Roads

- 7F-023 Permit new access roads, provided they quickly enter and leave the seen area and do not parallel existing travelways.
- 7F-024 All roads, facilities, and signing are designed to blend in with surroundings.
- 7F-025 Density of open roads and/or motorized vehicle trails remains near the current level throughout the planning period, with only small increases or decreases.

Lands and Special Uses

- 7F-026 These areas are unsuitable for designation of new utility corridors, utility rights-of-way, communication sites or wind generation. Continue existing uses. Require necessary mitigation techniques, including screening, feathering, and other vegetation management techniques to mitigate the visual and other impacts of upgraded, utility corridors, or communication sites.
- 7F-027 Authorize other special uses if consistent and compatible with the goals and objectives of this area.

7G - PASTORAL LANDSCAPES

These areas are often associated with old farm lands. They are actively managed for a variety of wildlife species that need open canopies and open woodlands. They are also often important areas of dispersed recreation use, particularly those areas along major rivers. There are approximately 4,000 acres in this management prescription area.

EMPHASIS

The emphasis is on providing, through maintenance or restoration, high quality, generally open landscapes with a pastoral landscape character within a patchwork of forested areas. While the emphasis is on the open conditions, these areas also contain forested areas, including bottomland hardwoods. These landscapes provide important open grassland conditions for wildlife. These landscapes are frequently found in visually important travel corridors. Rangelands are also included in this area.

DESIRED CONDITIONS FOR 7G - PASTORAL LANDSCAPES

DC 7G-01: Visitors to these landscapes view and experience high quality pastoral scenery in a setting conducive to a variety of recreational experiences. These areas reflect a Rural Americana landscape character theme that represents remnants of a pleasant, peaceful, simple rural life. The backdrop for many of these areas is natural appearing forested landscapes or other similar privately owned pastoral landscapes. Human cultural modification is evident in the form of pastures, hedgerows, fencelines, farm paths, paved roads and dirt travelways, an occasional outbuilding, springhouse or barn all complementing the desirable pastoral landscape attributes of the rural setting. Grazing animals, such as cattle, horses, and sheep, are commonly observed. The predominantly grassy openings vary in size and shape as a result of traditional cultural land use patterns. Some exhibit straight-lined edges and others follow natural landforms and watercourses.

DC 7G-02: Recreation uses include pleasure driving, photography, watching wildlife, and participating in dispersed recreation such as picnicking, bird watching, horseback riding, hunting, and fishing. These areas are typically accessible by motor vehicle and some may have small parking areas or pullouts to allow visitors to stop and walk through the area. These areas provide important habitat for early successional species and watchable wildlife habitats. Examples include songbirds, woodpeckers, hummingbirds, butterflies, deer, rabbits, foxes, turkeys, waterfowl, and squirrels.

DC 7G-03: The sights and sounds of other visitors and motorized vehicles are common, but are moderated in areas away from congregated use areas. Visitors take on low risk and are not challenged to rely on their own physical abilities and outdoor skills. Facilities, though minimal, are designed to fit the character of the specific sites where they are located. Facilities might include pullouts, small parking areas, trailheads, bulletin boards, interpretive signage, fence stiles, rail, and other fences. Trails, if present, are generally of a low development scale and do not have hardened surfaces.

DC 7G-04: Vegetation consists predominantly of low grasses and wildflowers with some native deciduous and evergreen shrubs interspersed with an occasional tree, hedgerow, or small woodlot. For the most part the areas are on gently rolling terrain, some with exposed surface rock, rock outcrops, and meandering streams. Along the streams and rivers, bottomland forest trees are common.

DC 7G-05: Wildlife species associated with grassland, mixed habitats, and large rivers are expected to inhabit these areas. These areas provide excellent opportunities for wildlife viewing and hunting.

DC 7G-06: Sound range management practices and mowing help to maintain important old-field and grassland habitats and aesthetically pleasing pastoral settings. National forest grazing allotments demonstrate how innovative range management practices can maintain and restore vegetated riparian areas and stable streambanks within the range of natural variability. The national forest grazing program benefits local communities through assistance to small farmers.

STANDARDS FOR 7G - PASTORAL LANDSCAPES

Vegetation and Forest Health

- 7G-001 These non-forest areas are unsuitable for timber management, although occasional tree removal or herbicide use may be necessary to manage forest encroachment, provide scenic views, improve visitor safety, or encourage the presence of certain watchable wildlife species.
- 7G-002 Eradicate non-native invasive plants.
- 7G-003 Allow vegetation management activities to:
 - Maintain grasses, wildflowers, and shrubby vegetation;
 - 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;
 - Reduce insect and disease hazard;
 - Control non-native invasive vegetation;
 - Provide for public health and safety;
 - Meet trail construction and maintenance needs

Timber Management

- 7G-004 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.
- 7G-005 Salvage of dead and dying trees is allowed.

Wildland Fire Management

- 7G-006 Prescribed fire and wildfires are allowed and managed to maintain pastoral and associated forest landscapes.

Recreation

- 7G-007 New facilities such as trails, trailheads, toilets, and parking areas are allowed.
- 7G-008 These corridors are unsuitable for designation of new All-Terrain Vehicle routes or use areas.

Scenery

- 7G-009 Management activities are designed to meet or exceed the following Scenic Integrity Objectives:

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

H=High; M=Moderate

Range

- 7G-010 Grazing is permitted in order to maintain a pastoral setting on areas historically grazed or on open cultivated areas.

7G-011 Grazing is not permitted without an Allotment Management Plan (AMP). AMPs are reviewed annually and revised when necessary.

7G-012 Stocking of range allotments will not exceed the carrying capacity.

Roads

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

Lands and Special Uses

7G-014 New land acquisitions containing old farms and pastoral areas are often assigned this management prescription, although there is no objective to acquire these types of landscapes.

8E4 - INDIANA BAT HIBERNACULA PROTECTION AREAS

These areas are located around caves that are known to contain the Indiana bat (*Myotis sodalis*), a federally listed endangered species that occurs in several locations across western Virginia, where it is near the eastern edge of its global range. There are approximately 16,000 acres allocated to this management prescription area.

These Indiana bat "hibernacula" areas are divided into two areas: the Primary Cave Protection Area and the Secondary Cave Protection Area. A primary cave protection area consists of a radius of no less than one-half mile around each hibernaculum, defined by National Forest surface ownership and topography. This area is intended to protect the integrity of the cave and the immediate surrounding uplands where bats swarm and forage in the fall. A secondary cave protection area consists of a radius of approximately 1.5 miles around each primary cave protection area, defined by easily recognizable features on the ground. This area is designed to further maintain and enhance swarming, foraging, and roosting habitat. (Please note that the term "hibernacula" refers to caves in which bats hibernate and is used interchangeably with caves throughout this document. The singular form is hibernaculum.)

Indiana bats are known to be hibernating in four caves located on or near the George Washington National Forest. These prescription areas are intended to contribute to the goals of reversing population declines and reestablishing healthy populations of Indiana bats across the eastern United States. Management is based on the guidelines of the Indiana Bat Recovery Strategy for the George Washington and Jefferson National Forests (April, 1997).

Management activities are designed to: 1) protect hibernacula (caves in which the bats spend the winter); 2) maintain and enhance upland and riparian swarming and foraging areas; and 3) identify and protect summer roosting and maternity site habitat. The proposed conservation measures identified in the Indiana Bat Recovery Strategy for the protection and promotion of habitat for Indiana bats on the George Washington National Forest are applied at three scales:

- 1) A **primary cave protection area** as consisting of a radius of no less than one half mile around each hibernaculum, defined by national forest surface ownership and topography. This area is intended to protect the integrity of the cave and the immediate surrounding uplands where bats may swarm and forage in the fall.
- 2) A **secondary cave protection area** as consisting of a radius of approximately 1.5 miles around each primary cave protection area, defined by easily recognizable features on the ground. This area is designed to further maintain and enhance swarming, foraging, and roosting habitat.
- 3) Because Indiana bats are known to travel over 200 miles between winter and summer habitats, standards are also applied to the George Washington National Forest as a whole. These can be found specifically in the Chapter 2-Forestwide Direction, Indiana Bat Management. These standards are designed to protect foraging areas; non-cave associated roosts and maternity sites, if any are discovered on the Forest.

8E4a - INDIANA BAT PRIMARY CAVE PROTECTION AREAS

EMPHASIS

Within this prescription area, habitats are managed to maintain, restore, and enhance Indiana bat populations. Management of the primary cave protection area is focused on protecting the watershed of the cave along with maintaining and enhancing the surrounding environment where bats swarm, forage, and roost. Timber harvest is not appropriate within this prescription area. There are approximately 2,000 acres within primary cave protection areas.

DESIRED CONDITIONS FOR 8E4a - INDIANA BAT PRIMARY CAVE PROTECTION AREAS

DC 8E4a-01: This prescription area includes caves known to contain the Indiana bat, as well as the primary cave protection areas surrounding these hibernacula. Indiana bat hibernacula maintain winter temperatures between 39° and 50° F, and relative humidity above 54%. The hydrologic functioning, atmospheric conditions, and structural integrity of these caves are maintained. The ability of bats to enter, exit and move within hibernacula is unhampered. At a minimum, they are free from human disturbance from September 1 until June 1, when bats are hibernating and swarming. It is a long-term goal to acquire lands surrounding caves within the Forest's proclamation boundary that are known to contain the Indiana bat.

DC 8E4a-02: The landscapes of these areas predominately feature a structurally diverse older aged forest community with an open forested canopy. Grazed pastures are maintained and open woodlands may be restored through prescribed fire or wildfire management. These types of open habitats provide direct sunlight to roost trees and abundant Indiana bat prey. Cavity trees, cull trees, standing dead trees, storm and fire damaged live trees, and down logs are common throughout the area. Active roost trees are identified and protected from disturbance.

DC 8E4a-03: At least six roost trees that retain slabs of exfoliating bark, greater than nine inches in diameter, with at least some daily exposure to sunlight are provided per acre. Indiana bat movement and flight paths are not restricted by dense understory vegetation. Indiana bat prey, such as flying insects, is abundant in terms of both numbers of individuals and diversity of species.

DC 8E4a-04: Natural processes eventually result in large patches of late successional to old growth forests. Activities to benefit bat habitat are limited to management of forest visitors, prescribed fire, wild fire, domestic livestock grazing, selected non-commercial tree cutting, and integrated pest management to control non-native invasive species like gypsy moth and autumn olive. Gaps may occur naturally or purposefully to increase sunlight exposure on selected roost trees. No activities which could lead to disruption of the cave environment or the taking of an Indiana bat occur in this area.

DC 8E4a-05: Insects and diseases play a natural role in shaping future plant and animal species composition and successional stages across these areas; however, non-native vegetation occurs only as transients and is not self-perpetuating. Biological or species-specific pesticide controls of gypsy moth, hemlock woolly adelgid, and other non-native species are permitted with full consideration of the effects on the Indiana bat, their habitat, and their prey. Timber harvest and pesticide controls may be implemented to aid in the study of effects of non-native pests on the Indiana bat.

DC 8E4a-06: Drinking water sources are available in created upland or ridgetop ponds. Ponds typically adjoin mature forest and most have a flight corridor, such as a pasture, road or wildlife linear strip, leading into them. Existing wildlife openings may be maintained. Aside from Indiana bats, wildlife species associated with mid- to late-successional deciduous forest habitats that are expected to inhabit this area include: hooded warbler, southern pigmy shrew; whip-poor-will; least weasel, downy woodpecker; eastern gray squirrel; and orchard oriole. Because the landscapes in which this prescription lies, 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.

DC 8E4a-07: Low-impact (dispersed) recreational uses of these prescription areas are compatible with the long-term conservation of the Indiana bat. These include hiking, hunting, backpacking, picnicking, photography, and wildlife study. Spelunking may be allowed when the bats are not using the caves for hibernation. Existing trails and roads are used for access to specified areas for these activities, although decommissioning of existing roads may occur. Off-highway vehicle use is prohibited. Educational materials describing the Indiana bat, its geographical distribution, its habitat, fragility, and conservation efforts are readily available to visitors of the area. The Indiana bat is actively protected against collection and killing, except for specified scientific purposes authorized under permit. Trail and road reconstruction, minor relocation, and new parking facilities are permitted. All activities are conducted with full consideration of effects on Indiana bat populations.

8E4b - INDIANA BAT SECONDARY CAVE PROTECTION AREAS

EMPHASIS

Within this prescription area, habitats are managed to maintain, restore, and enhance Indiana bat populations. The goals of the secondary cave protection area are to maintain and enhance swarming, roosting, and foraging habitat and to involve regularly scheduled vegetation management activities to maintain and enhance mid- to late-successional oak-hickory forests, open woodland habitats, and the trees that are most likely to develop and retain slabs of exfoliating bark. Commercial timber harvest is frequently the most practical and economical method of achieving these goals. There are approximately 14,000 acres within secondary cave protection areas.

DESIRED CONDITIONS FOR 8E4b - INDIANA BAT SECONDARY CAVE PROTECTION AREAS

DC 8E4b-01: Management of the secondary cave protection area is focused on maintaining and enhancing swarming, roosting, and foraging habitat. The landscapes of these areas feature a structurally diverse older aged forest community with a forested canopy. Where ecologically suitable, open pine-oak woodlands with a mature overstory and grassy understory are restored. Oak-hickory forests are managed to favor trees which develop and retain slabs of exfoliating bark including: shagbark hickory, bitternut hickory, white ash, red oak, chestnut oak, white oak, red maple, sugar maple, black gum, sycamore, black locust, and southern yellow pines. Cavity trees, cull trees, standing dead trees, storm and fire damaged live trees, and down logs are common throughout the area. These areas contribute small patches of late-successional to old growth forests to the forestwide matrix. Active roost trees are identified and protected from disturbance. At least six roost trees that retain slabs of exfoliating bark, greater than nine inches in diameter, with at least some daily exposure to sunlight are provided per acre. Indiana bat movement and flight paths are not restricted by dense understory vegetation. Indiana bat prey, such as flying insects, is abundant in terms of both numbers of individuals and diversity of species.

DC 8E4b-02: Management activities designed to benefit bat habitat are used more frequently in the secondary cave protection area to maintain and enhance mid- to late-successional oak-hickory forests, open woodland habitats, and the trees that are most likely to develop and retain slabs of exfoliating bark. Additional trees with roosting potential are selected and sunlight conditions surrounding them are improved. Larger diameter snags with exfoliating bark are promoted and retained. Optimal foraging habitat with 50-70% canopy closure is provided to maximize both flying insect production and Indiana bat foraging success. Sixty percent of these areas are greater than 70 years of age, and 40% of the oak-hickory forest types are greater than 80 years of age. Structural diversity within mixed mesophytic and dry-to-mesic oak forest communities may be enhanced through commercial and non-commercial vegetation management activities.

DC 8E4b-03: Four to ten percent of the secondary cave protection area may be in early successional forest conditions to provide flight corridors and foraging habitat, provided other habitat objectives are also met. Drinking water sources are available in created upland or ridgetop ponds. Ponds typically adjoin mature forest and most have a flight corridor, such as a road or wildlife linear strip, leading into them. Existing wildlife openings are maintained along with occasional creation of new openings. Wildlife species associated with mid- to late-successional deciduous forest habitats and mixed landscapes that are expected to inhabit these areas include: hooded warbler, southern pigmy shrew; whip-poor-will; least weasel, downy woodpecker; eastern gray

squirrel; and orchard oriole. This management prescription also provides suitable habitat for ruffed grouse, eastern wild turkey and black bear. These areas provide excellent opportunities for wildlife viewing and hunting. Because the landscapes, in which this prescription lies, 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.

DC 8E4b-04: Non-native vegetation occurs only as transients and is not self-perpetuating. Biological or species-specific pesticide controls of gypsy moth, hemlock woolly adelgid, and other non-native species are permitted with full consideration of the effects on the Indiana bat, their habitat, and their prey. Timber harvest and pesticide controls may be implemented to aid in the study of effects of non-native pests on the Indiana bat.

DC 8E4b-05: Low-impact (dispersed) recreational uses of these prescription areas are compatible with the long-term conservation of the Indiana bat. These include hiking, hunting, backpacking, picnicking, photography, and wildlife study. Existing trails and roads are used for access to specified areas for these activities, although decommissioning of existing roads may occur. Off-highway vehicle use is prohibited. Educational materials describing the Indiana bat, its geographical distribution, its habitat, fragility, and conservation efforts are readily available to visitors of the area. The Indiana bat is actively protected against collection and killing, except for specified scientific purposes authorized under permit. Trail and road reconstruction, minor relocation, and new parking facilities are permitted. All activities are conducted with full consideration of effects on Indiana bat populations.

STANDARDS FOR 8E4 – INDIANA BAT HIBERNACULA PROTECTION AREAS

Forestwide standards for protection and management of the Indiana bat are supplemented in this prescription area by the following standards specific to cave-associated habitats.

When not specifically stated otherwise, these standards refer to both the primary (8E4a) and secondary (8E4b) cave protection areas.

Primary Cave Protection Areas

- 8E4-001** Each Indiana bat hibernaculum will have a primary buffer consisting of a radius of no less than one-half mile around each hibernaculum, defined by national forest surface ownership and topography.
- 8E4-002** No disturbance that will result in the potential taking of an Indiana bat will occur within this buffer.
- Commercial timber harvesting, road construction, use of the insecticide diflubenzuron, expansion or creation of permanent wildlife openings, and mineral exploration and development are prohibited.
 - Prescribed burning, tree cutting, road maintenance, and integrated pest management using biological or species-specific controls are evaluated during project level analysis to determine the direct, indirect, and cumulative effects on Indiana bats and the hibernacula.
- 8E4-003** All currently known hibernacula are gated. If additional hibernacula are found, the caves are gated, if necessary, to protect Indiana bats during the critical hibernation period.
- 8E4-004** All caves may be opened for public use during the summer months for recreational use from June 1 to September 1.

Secondary Cave Protection Areas

- 8E4-005 A secondary buffer consisting of a radius of approximately 1.5 miles around each primary cave protection area, defined by easily recognizable features on the ground, will have limited disturbance.
- 8E4-006 Within the secondary cave protection area, the following management activities can occur following evaluation to determine the direct, indirect, and cumulative effects on Indiana bats and the hibernacula:
- Regeneration timber sales;
 - Thinning;
 - Road construction or reconstruction;
 - Prescribed burning;
 - Trail construction or reconstruction;
 - Special uses; and
 - Biological or species-specific pesticide use.

Active Maternity Site Protection

- 8E4-007 If active maternity roost sites are identified on the Forest, they are protected with a 2.5-mile buffer defined by the maternity roost, alternate roost sites, and adjacent foraging areas. See Forestwide standards.

Active Roost Tree Protection

- 8E4-008 As active roost trees are identified on the Forest, they are protected with a quarter-mile buffer surrounding them. This protective buffer remains until such time they no longer serve as a roost (e.g. loss of exfoliating bark or cavities, blown down, or decay). See Forestwide standards.

Terrestrial and Aquatic Species

- 8E4-009 Management for other plant and animal species within the primary cave protection areas is evaluated during project level analysis to determine the direct, indirect, and cumulative effects on Indiana bats and the hibernacula.
- 8E4-010 Opportunities should be sought to include creation of drinking water sources for bats in project plans, where appropriate, in areas where no reliable sources of drinking water are available. Opportunities are considered when the creation is not detrimental to other wetland-dependent species (i.e., damage to natural springs and seeps).
- 8E4-011 Limit creation of early successional habitat to 10 percent of forested acres in the secondary cave protection area. Creation of early successional habitat in the primary cave protection area is prohibited.
- 8E4-012 Existing old fields, wildlife openings, and other habitat improvements for fish and wildlife may be present and maintained within both the primary and secondary cave protection areas, but no expansion of openings or creation of new permanent openings of this type occurs within the primary cave protection area. Native species are emphasized when establishing food plants for wildlife. Some openings provide permanent shrub/sapling habitat as a result of longer maintenance cycles.
- 8E4-013 Structural habitat improvements for fish and other aquatic species are allowed.

Threatened, Endangered and Sensitive Species

8E4-014 Management for other known populations of threatened, endangered, sensitive, and locally rare species within the primary cave protection areas are evaluated during project level analysis to determine the direct, indirect, and cumulative effects on Indiana bats and the hibernacula.

Vegetation and Forest Health

8E4-015 Allow vegetation management activities within primary cave protection areas to:

- Promote trees that retain slabs of exfoliating bark;
- Promote large diameter roost trees with some daily exposure to sunlight;
- Thin dense midstories that restrict bat movement;
- Improve other threatened, endangered, sensitive, and locally rare species habitat;
- Maintain rare communities and species dependent on disturbance;
- Reduce fuel buildups;
- Restore historic fire regimes, particularly in pine and pine-oak woodlands;
- Reduce insect and disease hazard to oak-hickory forest communities;
- Control non-native invasive vegetation;
- Maintain trails

8E4-016 Allow vegetation management activities within secondary cave protection areas to:

- Maintain oak-hickory forest communities; and restore pine and pine-oak woodlands;
- Promote trees that retain slabs of exfoliating bark;
- Promote large diameter roost trees with some daily exposure to sunlight;
- Thin dense midstories that restrict bat movement;
- Improve other threatened, endangered, sensitive, and locally rare species habitat;
- Maintain rare communities and species dependent on disturbance;
- Reduce fuel buildups;
- Restore, enhance, or mimic historic fire regimes;
- Reduce insect and disease hazard;
- Control non-native invasive vegetation;
- Salvage dead and dying trees as a result of insects, diseases, or other natural disturbance events;
- Provide up to 10% early successional habitat conditions;
- Maintain trails

- 8E4-017** Strive for optimum roosting habitat of 16 or more Class 1 and/or Class 2 trees greater than 9 inches diameter at breast height (dbh) per acre, as averaged across the prescription area associated with each hibernaculum. Class 1 trees are those species which are most likely to have exfoliating bark either in life or after death, and which are most likely to retain it for several years after they die. Class 2 trees characteristically have exfoliating bark as well, but are considered to be of slightly lower quality than Class 1 trees.

Class 1 Trees

Carya cordiformis (bitternut hickory)
Carya laciniosa (shellbark hickory)
Carya ovata (shagbark hickory)
Fraxinus americana (white ash)
Fraxinus pennsylvanica (green ash)
Quercus alba (white oak)
Quercus prinus (chestnut oak)
Quercus rubra (red oak)
Quercus stellata (post oak)
Ulmus rubra (slippery elm)

Class 2 Trees

Acer rubrum (red maple)
Acer saccharum (sugar maple)
Aesculus octandra (yellow buckeye)
Betula lenta (sweet birch)
Carya glabra (pignut hickory)
Carya spp. (other hickories)
Fagus grandifolia (American beech)
Liriodendron tulipifera (tulip poplar)
Nyssa sylvatica (black gum)
Platanus occidentalis (sycamore)
Robinia pseudoacacia (black locust)
Quercus coccinea (scarlet oak)
Quercus velutina (black oak)
Sassafras albidum (sassafras)
Pinus echinata (shortleaf pine)
Pinus virginiana (Virginia pine)
Pinus rigida (pitch pine)
Pinus pungens (table mountain pine)

Timber Management

- 8E4-018** Primary cave protection areas are unsuitable for timber production. Commercial timber harvest is not allowed.
- 8E4-019** Secondary cave protection areas are suitable for timber production. Some portions of the areas are identified as unsuitable for timber production due to the timber suitability analyses in Appendix C.

The remainder of the Timber Management standards under this section refers only to the Secondary Cave Protection Areas.

- 8E4-020** Clearcutting is prohibited.
- 8E4-021** In order to promote fall foraging and swarming areas, timber activities will leave all shagbark hickory trees and retain a minimum average of 6 snags or cavity trees (greater than or equal to 9 inches diameter at breast height, dbh) per acre as potential roost sites (except where they pose a safety hazard). For the group selection harvest method, all shagbark hickories are maintained (except where they pose a safety hazard) with no provision for minimum number of snags or cavity trees due to the small opening size.

8E4-022 Forested communities are maintained using either of two following criteria:
 A minimum of 60% of the acreage of all Forest Types are maintained over 70 years of age; and a minimum of 40% acreage of FSVEG Forest Types 53 (white oak, red oak, hickory) and 56 (yellow poplar, white oak, red oak) are maintained at an age greater than 80 years old;

OR

When the above age criteria cannot be met, forest stands receiving even-aged regeneration harvesting are maintained with a minimum of 20 trees per acre in the 10-16 inch dbh class and 15 trees per acre in the greater than 16 inch dbh class, of which two trees per acre must be 20 inches dbh or greater.

8E4-023 The 0 - 10 age class will not exceed 10% at any time (regardless which of the criteria above are used).

8E4-024 Timber marking and harvesting crews will receive training in the identification of potentially valuable roost trees.

8E4-025 Timber harvesting operations will be suspended from September 15 until November 15.

Non-timber Forest Products

8E4-026 Do not issue authorizations for the commercial or personal use of any forest products, including firewood.

Wildland Fire Management

8E4-027 Prescribed burning and wildfires are allowed to manage vegetation to maintain flight and foraging corridors in upland and riparian areas potentially used by bats in the summer.

Recreation

8E4-028 Maintain trails to the minimum standard necessary for protection of the soil, water, vegetation, visual quality, user safety, and long-term maintenance.

8E4-029 New trail construction is allowed only within the secondary cave protection area.

Scenery

8E4-030 Management activities are designed to meet or exceed the following Scenic Integrity Objectives:

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

H=High; M=Moderate

8E4-031 Management activities are designed to meet or exceed a High Scenic Integrity Objective in semi-primitive non-motorized areas within this prescription area.

Minerals

8E4-032 The primary cave protection areas are not suitable for oil and gas and other Federal leasable minerals. These areas are not available for mineral materials for commercial, personal, or free use purposes. Administrative use of mineral materials is allowed when: a) the materials are used within the primary cave protection area itself; and b) use is necessary to protect Indiana bat habitat.

8E4-033 Within the secondary cave protection areas, areas are suitable for federal oil and gas leasing with a no surface occupancy stipulation to protect Indiana bat habitat. Other Federal minerals are allowed on a case-by-case basis after full consideration of effects on Indiana bat habitat. Permit mineral materials for commercial, personal, free, and administrative use purposes with conditions to protect Indiana bat habitat. Seismic exploration would only be allowed during periods of time when Indiana bats are not hibernating.

Roads

8E4-034 Within the primary cave protection area, do not permit road construction, subject to valid existing rights or leases. Road reconstruction and minor relocation are permitted to benefit the Indiana bat and its habitat.

8E4-035 New construction and reconstruction are allowed in the secondary cave protection area.

8E4-036 Decommission roads when they are adversely affecting caves, their hydrology, or Indiana bat habitat security.

Lands and Special Uses

8E4-037 Primary cave protection areas are unsuitable for new special uses, except for research and outfitter-guide operations. Phase out existing non-conforming uses.

8E4-038 Allow commercial use by outfitters and guides if compatible with preservation of the primary cave protection areas. Do not allow contest events such as foot races or horseback endurance events. Require outfitters and guides to use leave-no-trace techniques. Do not allow permanent camps.

8E4-039 Within secondary cave protection areas, new special use proposals are analyzed on a case-by-case basis to determine the potential effects on the Indiana bat.

8E4-040 Both the primary and secondary cave protection areas are unavailable for wind energy development.

8E7 - SHENANDOAH MOUNTAIN CREST

Nearly the entire known range of the Cow Knob salamander (*Plethodon punctatus*) occurs on the George Washington National Forest. This area is located on the North River Ranger District along the crest of Shenandoah Mountain and Great North Mountain, largely above 3,000 feet elevation. Cow Knob salamanders typically reach their highest population densities in older age hardwood forests with abundant large down wood and rock. The U.S. Fish and Wildlife Service and the George Washington National Forest were the first federal agencies in the Nation to enter into a Conservation Agreement in 1994, under a multi-agency Memorandum of Understanding, designed to keep an at-risk species from needing to be listed under the Endangered Species Act. This Conservation Agreement, and accompanying Habitat Conservation Assessment, serves as the guide for management of the Cow Knob salamander. There are approximately 24,000 acres allocated to this management prescription area. Another 23,000 acres of the area established in the Conservation Agreement are located within the recommended National Scenic Area and about 11,000 acres are allocated to Wilderness, Recommended Wilderness Study or Research Natural Areas.

A variety of threatened, endangered, and sensitive species and unique natural communities occur on Shenandoah Mountain. This includes at least 15 species of plants and 13 species of animals plus their associated habitats. This area includes the following Virginia Division of Natural Heritage Conservation sites: Cow Knob, Laurel Run, Middle Mountain, and portions of Bother Knob/High Knob, Little Bald Knob, and Reddish Knob.

EMPHASIS

This large area is managed to protect and/or enhance habitat for the Cow Knob salamander and for other outstanding natural biological values. The protection, maintenance and restoration of species, natural communities and ecological processes are the primary objectives. Management of the biological resources coexists with dispersed recreation activities as well as other wildlife management activities that are compatible.

DESIRED CONDITIONS FOR 8E7 - SHENANDOAH MOUNTAIN CREST

DC 8E7-01: Vegetation types influenced by the natural environmental and ecological processes dominate the landscape. Restoration and maintenance of certain vegetation communities are permitted through prescribed burning or other proven means of controlling natural succession. Inholdings and adjacent lands are acquired as opportunities arise and are considered a priority for acquisition.

DC 8E7-02: Within this area, habitats are managed to maintain or enhance Cow Knob salamander populations and populations of other threatened, endangered, sensitive, and locally rare (TESLR) species, including the Shenandoah Mountain salamander. The landscape character of this area generally consists of a closed forest canopy of late-successional stages of mixed hardwoods on upper slopes combined with coves and riparian areas with eastern hemlock, tulip poplar, and rhododendron thickets. Within this matrix of mostly closed canopy forest is a mosaic of dry oak and yellow pine woodlands in a wide variety of successional stages and structural conditions, with a south to west aspect. Abundant ground cover in the form of rocks, down and decaying logs, and leaf litter are maintained and restored. Open grassy, shrubby areas and areas without vegetation, like roads, trails, and utility rights-of-way are minimized, except where desired for certain TESLR species and ecological systems. The landscape of the area retains a natural, forested appearance, and the valued character of the natural evolving landscape is intact with no noticeable deviations. The mix of forest communities varies by landtype association, including mixed mesophytic and mesic oak hickory forests dominated by red, white, chestnut, and black oaks, as well as tulip poplar, sugar and red maples, and hemlocks. The overstory is generally closed in forested conditions with minimal sunlight reaching the forest floor; however, naturally occurring brushy and herbaceous openings may occasionally be found. Natural processes eventually result in a large patch old growth forest matrix throughout much of the area. Cavity trees, standing dead trees, and down logs are common throughout the entire area as a result of natural mortality combined with gypsy moth killed trees. All forested blocks are interconnected by corridors which themselves have a continuous forest cover. Wildlife species associated with area-sensitive mid- to late-successional deciduous forest habitats are expected to inhabit this area.

DC 8E7-03: This habitat conservation area is unsuitable for timber production and commercial timber harvest. Removal of non-native vegetation is considered appropriate. Sufficient canopy trees and large woody debris on the forest floor are maintained to reduce drying of subsurface soils. Biological pesticide controls of gypsy moth, hemlock woolly adelgid, and other detrimental species are permitted with full consideration of the effects on the salamanders, TESLR species, their microhabitat, and their prey.

DC 8E7-04: The role of fire in maintaining some natural communities within this area is recognized as an important management tool. Management will include prescribed fire and wildfires on drier sites supporting rare plants and unique natural communities, including woodlands. Generally, fires occur predominately on drier sites where the Cow Knob salamander is absent. Therefore, fires on dry sites supporting rare plants and unique natural communities appear to be compatible with salamander conservation. Wildfires are managed under conditions to create or maintain habitat needed by TESLR species and rare communities where appropriate. Fire suppression efforts will use the least impact methods available to manage the fire.

DC 8E7-05: Low-impact (dispersed) recreational uses of the area are compatible with the long-term conservation of the Cow Knob salamander. These include hiking, hunting, backpacking, picnicking, photography, and wildlife study. Existing trails and roads are used for access to specified areas for these activities, although decommissioning of existing roads may occur. Mountain bike and horse riding occur only on designated roads and trails. The Cow Knob salamander is actively protected against collection and killing, except for specified scientific purposes. Limited access is provided through portions of the area on Forest Service and State roads with gravel, native, and occasionally paved surfaces. The opportunity to encounter other visitors is high along the roads and at parking areas, pull-outs, and overlooks. Forest visitors on foot, horse, or bicycles experience solitude in portions of this prescription area away from roads. Comfort, sanitation, and camping facilities on Forest Service lands are not provided, although primitive camping can be enjoyed throughout the area. During most of the year, occasional encounters with other forest visitors can be expected; however these encounters are more frequent during spring and fall hunting seasons. Visitors to this area see examples of the natural communities of Shenandoah Mountain. This includes various old growth forest types as well as a mosaic of grass and fern dominated openings with scattered trees along the very crest of Shenandoah Mountain. Dispersed recreation opportunities are provided when in harmony with the special biological values of the area. Mountaintop vistas such as Reddish Knob Observation Site and Flagpole Knob provide sweeping views of the Shenandoah Valley.

DC 8E7-06: Management activities limit negative impacts to Cow Knob salamander populations from permanent and long-term fragmentation, isolation, and edge effects (such as drying from increased insolation, impacts from edge predators, invasion of non-native invasive plants, and increased competition from other salamander species). No new permanent roads are constructed. Restoration of canopy and cover along temporary and decommissioned roads occurs quickly. Canopy closure along road rights-of-way is common. New trails may be constructed if no adverse effect on Cow Knob salamander populations will occur. Trail and road reconstruction, minor relocation, and new parking facilities are permitted. All activities are conducted with full consideration of effects on Cow Knob salamander populations.

STANDARDS FOR 8E7 - SHENANDOAH MOUNTAIN CREST

Terrestrial and Aquatic Species

- 8E7-001** Watershed improvement projects are developed and implemented on areas where erosion is human-caused, but not normally undertaken in response to natural processes occurring on the area.
- 8E7-002** Maintenance or creation of wildlife habitat improvements is allowed except for those activities that would negatively impact Cow Knob salamander habitat.
- 8E7-003** The creation of new edge habitat for management of game species should be minimized, and is allowed as a wildlife management tool only in areas of habitat unsuitable for the Cow Knob salamander.

- 8E7-004 Vegetation may be manipulated for the management of the biological values identified as well as threatened, endangered, or sensitive species and their habitat.

Vegetation and Forest Health

- 8E7-005 Native forest insect and disease outbreaks are controlled only to prevent unacceptable damage to resources on adjacent land or to protect threatened, endangered, sensitive, or locally rare species. Non-native, invasive insects and diseases may be eradicated or suppressed to prevent a loss of the special biological community. Favor biological control methods.
- 8E7-006 Control or eradicate non-native invasive plants using hand-applied herbicides, with Forest Supervisor approval, when necessary.
- 8E7-007 Control non-native invasive animals, insects, and diseases where they are causing negative effects to rare communities. Do not introduce non-native species in or near rare communities, unless it is a natural enemy of a non-native pest.

Timber Management

- 8E7-008 These lands are classified as unsuitable for timber production.
- 8E7-009 Salvage of dead or dying trees using ground-based systems may occur for safety or scenic rehabilitation along open road systems.
- 8E7-010 Cutting of insect damaged, wind thrown, and fire killed trees which pose a safety or maintenance concern, may be conducted within 100 feet of the center of existing open roads. Non-commercial firewood cutting may be permitted with this same corridor, but only following salamander surveys indicating the area is not of significance to the Cow Knob salamander.

Non-timber Forest Products

- 8E7-011 Do not permit the collection of non-timber forest products, except for scientific purposes as permitted by the Forest Supervisor.

Wildland Fire Management

- 8E7-012 Vegetation management may be accomplished with wildland fire management.
- 8E7-013 New plow lines for containing prescribed burns in or near bogs and seasonal ponds are prohibited to avoid disrupting hydrology. Use existing roads, firelines, or streams to contain burns where possible. Favor construction of new firelines by using less intensive methods such as wetline, handline, and cutting back flashy fuels. Heavy mechanized equipment (e.g. bulldozers and tractors) may be used only if compatible with the values for which the management prescription area was created.

Recreation

- 8E7-014 Modify recreation sites or trails to reduce or eliminate negative effects where recreational uses are negatively affecting threatened, endangered, sensitive, and locally rare species. New and improved recreational developments are designed to avoid adverse effects to threatened, endangered, sensitive, and locally rare species.
- 8E7-015 These areas are unsuitable for designation as All-Terrain Vehicle use areas.

8E7-016 Where appropriate, interpretive services (trails, signs, viewing areas) are provided to enhance visitors' understanding and appreciation of the area's special values.

8E7-017 Trails and other recreation facilities are located to minimize impacts occurring to the natural values of the established area.

8E7-018 Vistas and associated turn-outs may be maintained or increased where compatible with biological values.

Scenery

8E7-019 All management activities will meet or exceed a Scenic Integrity Objective of High.

Minerals

8E7-020 These areas are suitable for federal oil and gas leasing with a no surface occupancy stipulation to protect threatened, endangered, sensitive, and locally rare species. Other Federal minerals may be available on a case-by-case basis after full consideration of effects on threatened, endangered, sensitive, and locally rare species.

8E7-021 Permit mineral materials for commercial, personal, free, and administrative use purposes with conditions to protect threatened, endangered, sensitive, and locally rare species habitat.

8E7-022 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

8E7-023 Only permit road construction to access valid existing rights and mineral leases.

8E7-024 Existing roads may be maintained. Construction of new roads of any kind is not permitted in the management prescription area.

8E7-025 Reconstruction, minor relocation and construction of parking facilities are permitted where compatible with biological values.

Lands and Special Uses

8E7-026 These areas are unsuitable for designation of new utility corridors, utility rights-of-way, or communication sites unless there is an over-riding demonstrated public need or benefit. Existing uses may continue unless removal is necessary to protect threatened, endangered, sensitive, and locally rare species.

8E7-027 These areas are unsuitable for wind energy development.

8E7-028 Allow commercial use by outfitters and guides if compatible with preservation of the rare community values. Contest events such as foot races or horseback endurance events are generally discouraged, but can be considered on a case-by-case basis. Require outfitters and guides to use leave-no-trace techniques. Do not allow permanent camps.

8E7-029 Vegetation within existing corridors is maintained in a grass/shrub type by mowing, hand cutting or use of selective herbicide treatments.

Additional Direction

8E7-030 The following standards will apply to the portion of the Shenandoah Mountain Crest within the Shenandoah Mountain Remote Backcountry Area as displayed in Appendix I.

Timber may be cut, sold, or removed if one of the following circumstances exists. The cutting, sale, or removal of timber in these areas is expected to be infrequent.

- (1) The cutting, sale, or removal of generally small diameter timber is needed for one of the following purposes and will maintain or improve one or more of the remote area characteristics;
 - (i) To improve threatened, endangered, proposed, or sensitive species habitat; or
 - (ii) To maintain or restore the characteristics of ecosystem composition and structure, such as to reduce the risk of uncharacteristic wildfire effects, within the range of variability that would be expected to occur under natural disturbance regimes of the current climatic period;
- (2) The cutting, sale, or removal of timber is incidental to the implementation of a management activity not otherwise prohibited; or
- (3) The cutting, sale, or removal of timber is needed and appropriate for personal or administrative use.

Roads may not be constructed or reconstructed unless:

- (1) A road is needed to protect public health and safety in cases of an imminent threat of flood, fire, or other catastrophic event that, without intervention, would cause the loss of life or property;
- (2) A road is needed to conduct a response action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or to conduct a natural resource restoration action under CERCLA, Section 311 of the Clean Water Act, or the Oil Pollution Act;
- (3) A road is needed pursuant to reserved or outstanding rights, or as provided for by statute or treaty;
- (4) Road realignment is needed to prevent irreparable resource damage that arises from the design, location, use, or deterioration of a system road that cannot be mitigated by road maintenance. Road realignment may occur under this paragraph only if the road is deemed essential for public or private access, natural resource management, or public health and safety;
- (5) Road reconstruction is needed to implement a road safety improvement project on a system road determined to be hazardous on the basis of accident experience or accident potential on that road;
- (6) The appropriate decision-maker determines that a Federal Aid Highway project, authorized pursuant to Title 23 of the United States Code, is in the public interest or is consistent with the purposes for which the land was reserved or acquired and no other reasonable and prudent alternative exists; or
- (7) A road is needed in conjunction with the continuation, extension, or renewal of a mineral lease on lands that are under lease or for a new lease issued immediately upon expiration of an existing lease. Such road construction or reconstruction must be conducted in a manner that minimizes effects on surface resources, prevents unnecessary or unreasonable surface disturbance, and complies with all applicable lease requirements, land and resource management plan direction, regulations, and laws. Roads constructed or reconstructed pursuant to this paragraph must be obliterated when no longer needed for the purposes of the lease or upon termination or expiration of the lease, whichever is sooner.

11 - RIPARIAN CORRIDORS – STREAMS, LAKES, WETLANDS, AND FLOODPLAINS

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. For an operational definition of a riparian area based on soils, vegetation, and hydrologic characteristics see Appendix A. A *riparian corridor* is a management prescription area designed to include much of the Riparian Area. Within the riparian corridor management prescription area, management practices are specified to maintain riparian functions and values. As a management prescription area, this includes corridors along all defined perennial and intermittent stream channels that show signs of scour, and around natural ponds, lakeshores, wetlands, springs, and seeps. See Appendix A for a graphical representation of a riparian corridor. There are approximately 51,000 acres of floodplains, wetlands, and riparian areas allocated to this management prescription area but because these acres are intricately embedded within other areas, they are not mapped on the Management Prescription Area map associated with this Forest Plan.

EMPHASIS

Riparian corridors are managed to retain, restore, and/or enhance the inherent ecological processes and functions of the associated aquatic, riparian, and upland components within the corridor. Primarily, natural processes (floods, erosion, seasonal fluctuations, etc.) modify most of the areas within the riparian corridor. However, management activities may be used to provide terrestrial or aquatic habitat improvement, favor recovery of native vegetation, control insect infestation and disease, comply with legal requirements (e.g. Endangered Species Act, Clean Water Act), provide for public safety, and to meet other riparian functions and values. Silvicultural treatments including timber and vegetation removal may occur to restore and/or enhance riparian resources such as water, wildlife, and natural communities.

DESIRED CONDITIONS FOR 11 - RIPARIAN CORRIDORS

DC 11-01: Riparian corridors reflect the physical structure, biological components, and ecological processes that sustain aquatic, riparian, and associated upland functions and values. The preferred management for riparian corridors is one that maintains, or moves toward, the restoration of processes that regulate the environmental and ecological components of riparian areas. However, due to the high value that these areas have for many uses, evidence of human activity (developed recreation areas, roads and trails, dams and reservoirs, and pastoral areas) may be present.

DC 11-02: Riparian corridors are managed to emphasize the maintenance, restoration, and enhancement of habitat for species that depend on riparian resources for at least a part of their life-cycle. Management may also occur to maintain, restore, or enhance habitat for other species that benefit from riparian resources as long as the needs of species that depend on riparian resources for at least a part of their life-cycle are met.

DC 11-03: The soils of riparian corridors have an organic layer (including litter, duff, and/or humus) of sufficient depth and composition to maintain the natural infiltration capacity, moisture regime, and productivity of the soil (recognizing that floods may periodically sweep some areas within the floodplain of soil and vegetation).

DC 11-04: Exposed mineral soil and soil compaction from human activity may be present but are dispersed and do not impair the productivity and fertility of the soil. Any human-caused disturbances or modifications that cause environmental degradation through concentrated runoff, soil erosion, or sediment transport to the channel or waterbody are promptly rehabilitated or mitigated to reduce or eliminate impacts.

DC 11-05: Trees within the corridors are managed to provide sufficient amounts and sizes of woody debris to maintain habitat complexity and diversity for aquatic and riparian wildlife species. Recruitment of woody debris typically occurs naturally; however, woody debris may be purposefully introduced to enhance aquatic and

terrestrial habitat. Both in-stream and terrestrial woody debris are regarded as essential and generally left undisturbed.

DC 11-06: The riparian corridor functions as a travelway for aquatic and terrestrial organisms. The corridor serves as a connector of habitats and populations allowing gene flow to occur, thus keeping populations genetically viable.

DC 11-07: Stream structures, such as bridges, culverts, and aquatic habitat improvement structures, may be evident in some streams and waterbodies. With the exception of some dams, most structures do not decrease in-stream connectivity.

DC 11-08: Suitable habitat is provided in the riparian corridor for riparian flora and fauna; especially threatened, endangered, sensitive (TES) and locally rare species. Vegetation (dead and alive) reflects the potential natural diversity of plant communities with appropriate horizontal and vertical structure needed to provide the shade, food, shelter, and microclimate characteristics for aquatic and terrestrial species. Rehabilitation of past and future impacts (both natural and human-caused) may be necessary to protect resource values and facilitate recovery of riparian structure and functions.

DC 11-09: Vegetative communities within the riparian corridor are diverse and productive, providing for a rich variety of organisms and habitat types. The vegetative community within the riparian corridor is predominately forested; however, some native non-forested communities such as wet meadows and grass or shrub dominated plant communities may occur. The desired vegetative condition of non-forested communities is determined by site-specific analysis.

DC 11-10: The forest contains multiple canopy layers, which provide diverse habitat structure, and thermal and protective cover for wildlife. Snags used by birds, bats, and other small animals are abundant. Dying and down trees are common, often in naturally occurring patches. Wet meadows, non-forest communities, and open forest canopies, created by flooding, wind damage, wildland fire, insect infestations, disease, restoration, and vegetation management may be seen.

DC 11-11: Vegetation management activities are stratified into two sections of the riparian corridor. The core of the corridor is the area within 100 feet each side of perennial streams, lakes, ponds and wetlands and the area within 50 feet each side of intermittent streams. Within the core of the riparian corridor, vegetation management activities, including prescribed fire, may take place to maintain, restore, and/or enhance the diversity and complexity of native vegetation, rehabilitate both natural and human-caused disturbances, and provide habitat improvements for aquatic and riparian-associated wildlife species (including migratory birds), provide for visitor safety, or to accommodate appropriate recreational uses. Silvicultural treatments, including timber and vegetation removal, may occur within the riparian corridor, but the corridor will be classified as not suitable for timber production. When slopes exceed ten percent, the riparian corridor is extended beyond the core area. Within this extended portion of the corridor vegetation management activities may take place to meet the objectives of the adjacent management prescription. However, these activities will be constrained by the standards in this riparian corridor prescription. Silvicultural treatments, including timber and vegetation removal, may occur within the extended section of the corridor. This extended section of the corridor can be classified as suitable for timber production if the adjacent management prescription is suitable. Prescribed fire can be used within the corridor to create or maintain the composition and vitality of fire-dependent vegetative communities.

DC 11-12: The landscape character is natural evolving or natural appearing, but occasional enclaves of a rural landscape character may occur with pastoral settings and recreation developments (such as a swim beach at a campground). Livestock grazing may occur, but it is managed to minimize impacts on stream banks, water quality, and other riparian resources.

DC 11-13: Both dispersed and developed recreation opportunities may be present within these corridors. Although recreational areas and facilities may create long-term impacts on riparian corridors, allowances are made in this prescription since a majority of recreation within the national forests occurs in or near water bodies.

DC 11-14: Hiking, dispersed camping, hunting, and fishing are typical activities available within the corridor. Visitors may encounter developed camping areas, boat launches and fishing piers. Current recreation areas and facilities are managed to minimize impacts on stream banks, shorelines, and water quality. New recreation facilities will be developed in accordance with Executive Orders 11988 and 11990 to minimize impacts on the riparian resource. Environmental education and interpretation about the aquatic component and riparian corridor may be provided to increase awareness of the value of riparian resources.

DESIRED CONDITIONS FOR AQUATIC SYSTEMS WITHIN THE RIPARIAN CORRIDOR

DC 11-15: Streams are in dynamic equilibrium; that is, stream systems normally function within natural ranges of flow, sediment movement, temperature, and other variables. The geomorphic condition of some channels may reflect the process of long-term adjustment from historic watershed disturbances (e.g. past intensive farming or logging practices). The combination of geomorphic and hydrologic processes creates a diverse physical environment, which, in turn, fosters biological diversity. The physical integrity of aquatic systems, stream banks and substrate, including shorelines and other components of habitat is intact and stable. Where channel shape is modified (e.g. road crossings), the modification preserves channel stability and function.

DC 11-16: The range of in-stream flows is maintained to support channel function, aquatic biota and wildlife habitat, floodplain function, and aesthetic values. Water uses and other modifications of flow regimes are evaluated in accordance with the national Forest Service in-stream flow strategy and site-specific analysis.

DC 11-17: Water quality remains within a range that ensures survival, growth, reproduction, and migration of aquatic and riparian wildlife species; and contributes to the biological, physical, and chemical integrity of aquatic ecosystems. Water quality meets or exceeds State and Federal standards. Water quality (e.g. water temperature, sediment level, dissolved oxygen, and pH) will be improved where necessary to benefit aquatic communities.

DC 11-18: Floodplains properly function as detention/retention storage areas for floodwaters, sources of organic matter to the water column, and habitat for aquatic and riparian species. Modification of the floodplain is infrequent but may be undertaken to protect human life and property or to meet other appropriate management goals (e.g. restoration). There may be evidence of some roads, trails, and recreation developments. Some wetland habitats may show signs of restoration.

DC 11-19: The biological integrity of aquatic communities is maintained, restored, or enhanced. Aquatic species distributions are maintained or are expanded into previously occupied habitat. The amount, distribution, and characteristics of aquatic habitats for all life stages are present to maintain populations of indigenous and desired non-native species. Habitat conditions contribute to the recovery of species under the Endangered Species Act. Species composition, distribution, and relative abundance of organisms in managed habitats are comparable to reference streams of the same region. Some streams and lakes, however, may be stocked with non-native fish by the respective State natural resource agency.

DC 11-20: Beavers are recognized as a keystone species that increase landscape heterogeneity and species diversity. Beaver ponds beneficially modify water flow rates, enhance groundwater recharge rates, raise water tables, sequester sediment, increase aquatic productivity, and modify water chemistry. Over time, beavers create a mosaic of habitats that are utilized by plants, amphibians, fish, insects, birds, and mammals that would not otherwise occur.

STANDARDS FOR 11 - RIPARIAN CORRIDORS

Standards refer to the entire riparian corridor (core and extended area) unless specified otherwise. Refer to Appendix A for slope restriction tables.

General

- 11-001 Any human-caused disturbances or modifications that may concentrate runoff, erode the soil, or transport sediment to the channel or waterbody are rehabilitated or mitigated to reduce or eliminate impacts. Channel stability of streams is protected during management activities.
- 11-002 Motorized vehicles are restricted to designated crossings. Access for motorized vehicles may be allowed on a case-by-case basis, after site-specific analysis, outside of designated crossings where it can be shown to benefit riparian resources.
- 11-003 Management activities expose no more than 10 percent mineral soil within the project area riparian corridor.

Aquatic Habitats within Streams and Rivers

- 11-004 The removal of large woody debris (pieces greater than 4 feet long and 4 inches in diameter on the small end) is allowed if it otherwise poses a risk to water quality, degrades habitat for aquatic or riparian wildlife species, impedes water recreation (e.g. rafting) or poses a threat to private property or Forest Service infrastructure (e.g. bridges). The need for removal must be determined on a case-by-case basis.
- 11-005 The addition of large woody debris for stream habitat diversity will generally favor stream reaches with an average bank full width of less than 30 feet in Rosgen B channel types. Log length will generally be 50% greater than bank full width. In stream reaches where there may be potential debris impacts to downstream private or public infrastructure (e.g. bridges) or to water-based recreation (e.g. rafting), the active recruitment (placement) of large woody debris will be limited in quantity and scope.
- 11-006 Stocking of new non-native species and stocking of previously unstocked areas is not allowed where it will negatively impact native aquatic species or communities. Prior to any stocking, national forests coordinate with the appropriate State and Federal agencies to ensure that populations and habitats of native species are maintained.
- 11-007 Restoration of chemical integrity of aquatic ecosystems (from impacts such as acid deposition and acid mine drainage) is allowed on a site-specific basis for protection or for restoration of aquatic species.
- 11-008 Instances where the flow regime is modified for other purposes (such as reservoir releases for recreational sports or hydroelectric demand), evaluate instream flow needs in accordance with the national strategy for water rights and instream flows.
- 11-009 In-stream habitat improvements, and stream-connected disturbances will be designed and implemented after consideration of the life-cycle requirements of at risk species or species of management concern.
- 11-010 In cold water stream habitats, activities that unfavorably affect trout spawning should be avoided from October 1 to April 1 in brook trout and brown trout streams and/or March 15 to May 15 in rainbow trout streams. Any necessary in-stream disturbance activities within these time limits must have consultation with state and Forest biologists.
- 11-011 When working in any waterbody, especially those known to have aquatic nuisance species, remove any visible mud, plants, fish or animals before transporting equipment, eliminate water

from equipment before transporting, clean and dry anything that came in contact with water (boats, trailers, equipment, clothing, dogs, etc.), and never release plants, fish or animals into a body of water unless they came out of that body of water.

- 11-012 When working in a stream with *Didymosphenia geminata*, soak and scrub all gear for at least one minute in a 2% solution of household bleach, or if cleaning is not practical, dry equipment in the sun for at least 48 hours before using it in another stream. Fish, plants, rocks, and vegetation should not be moved between waterways.

Terrestrial Species

- 11-013 Existing permanent wildlife openings may be maintained within the riparian corridor. However, permanent wildlife openings identified as causing environmental degradation through concentrated runoff, soil erosion, sediment transport to the channel or water body are mitigated or closed and restored. New permanent wildlife openings within the riparian corridor are permitted where needed to provide habitat for riparian species, or threatened, endangered, sensitive, and locally rare species.
- 11-014 Use no-till mechanical cultivation methods for maintenance of wildlife openings.
- 11-015 Small patches of early successional forest may be created within the riparian corridor to provide shrubby areas with low gradient and moist soils to provide habitat for woodcock and meet a habitat need for ruffed grouse and other high priority species. This can be done through cut and leave, girdling trees to create snags, or thinning through timber harvest leaving at least 30 square feet basal area per acre; as determined by site-specific analysis. Trees within 30 feet of the waterbody must be left to maintain bank and floodplain stability.

Rare Communities

- 11-016 Management actions that may negatively alter the hydrologic conditions of wetland rare communities are prohibited. Such actions may include livestock grazing and construction of roads, plowed or bladed firelines, and impoundments in or near these communities. Exceptions may be made for actions designed to control undesirable impacts caused by beavers, or where needed to control fires to provide for public and employee safety and to protect adjacent private land resources. Beaver impoundments may be removed if they are negatively affecting federally listed species.
- 11-017 Introducing fish into wetland rare communities is prohibited.

Vegetation and Forest Health

- 11-018 Insect and disease control measures will be determined on the basis of risk to adjacent resources, long-term sustainability, and appropriate needs for the function and condition of the riparian area. When cutting is an appropriate control tactic, cut and leave is the preferred method for control and suppression of insects and disease in the core of the riparian corridor. Cut and remove is permitted in the extended area beyond the core. Other control measures may be used when a condition poses a risk to stream stability, degrades water quality, adversely affects habitat for aquatic or riparian species, poses a threat to public safety or facilities, or when cut and leave is not effective.
- 11-019 Tree removals from the core of the riparian corridor may only take place if needed to:
- Enhance the recovery of the diversity and complexity of vegetation native to the site;
 - Rehabilitate both natural and human-caused disturbances;
 - Provide habitat improvements for aquatic or riparian species, or threatened, endangered, sensitive, and locally rare species;
 - Reduce fuel buildup;

- Provide for public safety;
- For approved facility construction/renovation; or
- As allowed in standards 11-015 and 11-024.

11-020 Tree removals from the extended area beyond the core of the riparian corridor may take place to meet the objectives of the adjacent management prescription.

Timber Management

11-021 Lands in the core of the riparian corridor are classified as not suitable for timber production. Vegetation management may be accomplished with commercial timber sales when that is the most practical or economically efficient method.

11-022 Lands in the extended area beyond the core of the riparian corridor may be suitable for timber production when the adjacent management prescription is also suitable.

11-023 When timber harvest occurs in the extended area beyond the core of the riparian corridor for purposes of meeting the objectives of the adjacent management prescription, then vehicles will be excluded from the extended area.

11-024 Corridors for cable logging in areas adjacent to the riparian corridor may cross the riparian corridor. Crossing will be at as near a right angle as possible, with full suspension preferred.

11-025 In cable logging, when full suspension is not possible, partial suspension is allowed with armoring when yarding logs across perennial and intermittent streams.

Non-timber Forest Products

11-026 Do not permit commercial collection of botanical products in the riparian corridor if it would adversely affect the functions and values of the riparian area.

11-027 Permitted firewood cutting within the riparian corridor must take into consideration large woody debris needs. Ranger Districts will identify areas where firewood cutting is not permitted due to large woody debris concerns.

Wildland Fire Management

11-028 Avoid aerial application of retardant or foam within 300 feet of waterways. Fire retardants should not be applied directly over open water.

11-029 Use existing fire barriers; such as streams, roads, trails, etc. for control lines where possible.

11-030 When necessary to construct firelines with heavy equipment (e.g. bulldozers) that cross riparian areas and streams, construct turnouts that will allow runoff to be dispersed and infiltrated into the soil before reaching the stream, and then cross stream at right angle. These firelines should be stabilized and/or revegetated as soon as possible after the fire is controlled.

11-031 Plan prescribed fires to use existing barriers, e.g. streams, lakes, wetlands, roads, and trails, to reduce the need for fireline construction.

11-032 Construction of firelines with heavy mechanized equipment (e.g. bulldozers) in riparian corridors is prohibited. Hand lines, wet lines, or black lines are used to create firelines within the riparian corridor to minimize soil disturbance. Water diversions are used to keep sediment out of streams. Firelines are not constructed in stream channels, but streams may be used as firelines.

Recreation

- 11-033 New trails will normally be located outside of the riparian corridor except at designated crossings or where the trail location requires some encroachment (e.g. to accommodate stream crossings in steep terrain, etc.), or to manage access to waterbodies.
- 11-034 New motorized trails are prohibited within the riparian corridor except at designated crossings or where the trail location requires some encroachment; for example, to accommodate steep terrain. When existing off-highway vehicle trails within the riparian corridor are causing unacceptable resource damage, appropriate mitigation measures (which may include OHV trail closure) will be implemented.
- 11-035 Motorized and non-motorized trail reconstruction and relocation within the riparian corridor are allowed to reduce impacts to riparian and aquatic resources.
- 11-036 Proposed recreation facilities will be located outside of the riparian corridor or 100-year floodplain (Executive Order 11988) and wetlands (Executive Order 11990) unless no practicable alternative location exists. Where future facilities cannot be located out of the 100-year floodplain, structural mitigation and best management practices will be used. Trails, campsites, and other recreational developments are located, constructed, and maintained to minimize impacts to channel banks and to prevent other resource damage. When existing facilities are causing unacceptable resource damage, appropriate mitigation measures will be implemented. Soils are stabilized on eroding trails and recreational sites.
- 11-037 Where a riparian area is identified as vulnerable to environmental impacts, camping trailers and vehicles should not be allowed within 50 feet of perennial streams or lakes, except at designated areas.
- 11-038 Overnight tethering or corralling of horses or other livestock is not allowed within 50 feet of stream courses or lakes. Existing corral sites are maintained to limit impacts to water quality and riparian corridors until alternative sites are developed.

Scenery

- 11-039 Management activities are designed to meet or exceed a High Scenic Integrity Objective.

Range

- 11-040 Where grazing is currently allowed and under a permit, grazing is controlled and mitigated to restore, maintain or enhance the integrity of stream channels and banks and prevent unacceptable resource damage. Reauthorizing grazing in riparian corridors within these existing allotments may occur if continued grazing would have no unacceptable resource damage on riparian resources. New grazing allotments or new permits for inactive allotments will exclude the riparian corridor.
- 11-041 Where authorized by permit, livestock watering areas, stream crossings, and stream banks are managed to maintain bank stability. Designated entry points, crossings, and watering points are located, sized, and maintained to minimize the impact to riparian vegetation and function.
- 11-042 Feeding troughs and salt and mineral blocks are not allowed inside the riparian corridor unless the entire pasture is within the riparian corridor, in which case they are located as far away from streams as possible. Watering troughs are appropriately located to protect the streams.

Minerals

- 11-043 The riparian corridors are suitable for federal oil and gas leasing with a controlled surface use stipulation to protect riparian resources and values. Roads, pipelines, and utilities associated with access to lease operations may be allowed to cross riparian areas. Well pads and associated well development infrastructure are not allowed in riparian areas. Other Federal minerals may be available on a case-by-case basis after full consideration of effects on the riparian corridor.
- 11-044 On existing Federal oil and gas leases, roads, pipelines, and utilities associated with access to lease operations may be allowed to cross riparian areas. Well pads and associated well development infrastructure are not allowed in riparian areas. Existing lease stipulations are used to protect the riparian corridor.
- 11-045 These corridors are not available for commercial or personal mineral materials. Administrative and free use of mineral materials is allowed only to restore riparian areas and aquatic habitat, control erosion and sedimentation, and repair flood damage.
- 11-046 Private mineral rights exist in some riparian corridors across the Forest. Roads, wells, and other necessary infrastructure associated with these rights are allowed. Requests for access to a non-Federal interest in lands pursuant to a reserved or outstanding right are recognized, and reasonable access is granted. Encourage such interests to minimize disturbance of riparian resources and values.

Roads

- 11-047 New roads are located outside the riparian corridor except at designated crossings or where the road location requires some encroachment; for example to accommodate steep terrain, or are allowed within the corridor if the road will cause more resource damage if it were located outside the corridor. When existing roads within riparian corridor are causing unacceptable resource damage, appropriate mitigation measures will be implemented.
- 11-048 In-stream use of heavy equipment or other in-stream disturbance activities is limited to the amount of time necessary for completion of the project. Construction of crossings is completed on all streams as soon as possible after work has started on the crossing. Permanent and temporary roads on either side of stream crossings within the riparian corridor are graveled.
- 11-049 When constructing roads, each road segment will be stabilized prior to starting another segment. Stream crossings will be stabilized before road construction proceeds beyond the crossing.
- 11-050 To minimize the length of streamside disturbance, ensure that approach sections are aligned with the stream channel at as near a right angle as possible. Locate riparian corridor crossings to minimize the amount of fill material needed and minimize channel impacts. Generally, permanent structures or temporary bridges on permanent abutments are provided when developing new crossings on perennial streams. Permanent structures, temporary bridges or hardened fords are used when crossing intermittent streams.
- 11-051 Design structures (culverts, bridges, etc.) to accommodate storm flows expected to occur while the structures will be in place. Use scientifically accepted methods for calculating expected storm flows.
- 11-052 Design crossings so stream flow does not pond above the structure during normal flows in order to reduce sediment deposition immediately above the crossing and maintain the channel's ability to safely pass high flows.
- 11-053 Design the crossing so that stream flow will not be diverted along the road if the structure fails, plugs with debris, or is over-topped.

- 11-054 If culverts are removed, stream banks and channels must be restored to a natural size and shape. All disturbed soil must be stabilized.
- 11-055 Fords associated with new road construction are not used in perennial streams without site-specific environmental analysis. Establish fords only under conditions that will not cause significant streambank erosion. Erosion stone or larger rock is used to increase load bearing strength at the water/land interface.
- 11-056 All new stream crossings will be constructed to allow the passage of aquatic organisms, and maintain natural flow regime. Exceptions may be allowed in order to prevent the upstream migration of undesired species.

Lands and Special Uses

- 11-057 Riparian corridors are generally unsuitable for new human-created stream channel impoundments, but may be considered on a project specific basis, consistent with appropriate Federal and state regulations. Impoundments will generally be designed to allow complete draining, with minimum flows, cold-water releases, and re-aeration in trout waters and other specific waters when needed. Downstream catch basins and fish ladders are constructed for fish salvage/passage, if necessary. New human-constructed impoundments are unsuitable on streams where federally listed species will be negatively affected.

Other Ground Disturbing Activities

- 11-058 For activities not already covered in the above standards, ground disturbing activities are allowed within the corridor if the activity will cause more resource damage if it were located outside the corridor, on a case-by-case basis following site-specific analysis. Any activity allowed under these conditions is minimized and effective sediment trapping structures such as silt fences, brush barriers, straw bale barriers, gravelling, etc., are required. Sediment control, prior to, or simultaneous with, the ground disturbing activities, is provided.

12D - REMOTE BACKCOUNTRY AREAS

These are the remote areas of the Forest outside of Wilderness. Included are the following areas: Adams Peak, Archer Knob, Beech Lick Knob, Beards Mountain, Benson Run, Big Schloss, Crawford Knob, Church Mountain, Dolly Anne, Duncan Knob, Elliott Knob, Great North Mountain, High Knob, Jerkemtight, Laurel Fork, Lick Run, Little Alleghany, Little Mare Mountain, Mill Mountain, North Mountain (Lee), Northern Massanutten, Oliver Mountain, Paddy Mountain (Lee), Rough Mountain, Rich Patch, Shenandoah Mountain (WV), Shaws Ridge, Southern Massanutten, The Friar, Three Ridges, Three Sisters, Vesuvius, Warm Springs Mountain, and West Blue Ridge (Whites Peak). There are approximately 201,000 acres allocated to this management prescription area. Where the boundary of one of these areas is coincident with a road, the boundary will be managed as a line 300 feet offset from state roads and 100 feet offset from Forest Roads so as to allow for road maintenance activities.

EMPHASIS

Remote Backcountry Areas are managed to provide mature successional forest with developing or well-developed canopies, large woody material on the ground and den and cavity trees. Recreation opportunities are provided in these large remote, core areas where users can obtain a degree of solitude and the environment can be maintained in a near-natural state. There is little evidence of humans or human activities other than recreation use and nonmotorized trails. These areas are generally 2500 acres or greater in size, unless the area is adjacent to Wilderness.

DESIRED CONDITIONS FOR 12D - REMOTE BACKCOUNTRY AREAS

DC 12-01: These areas provide large tracts of backcountry recreation opportunities with a semi-primitive emphasis that allow limited motorized access. Visitors will be able to choose from a variety of predominately non-motorized recreation opportunities such as hiking, backpacking, mountain bike riding, horseback riding, rock climbing, nature study, hunting, and fishing. Limited motorized activities are also available including dispersed camping and pleasure driving. New motorized uses are not provided. Closed roads are available for both non-motorized uses as well as administrative access.

DC 12-02: These areas are managed and monitored to absorb low to moderate levels of recreation use while protecting air, soil, vegetation, and water resource conditions. Limitations of use will occur if the dispersed activity results in, or is expected to result in, negative affects to the local ecosystem. Human activities may be evident in some places. Visitors will occasionally see other people, especially near the few open roads in these areas. Outdoor skills will be important for visitors in the more remote portions of these areas.

DC 12-03: The landscapes of these areas are primarily shaped by natural processes (floods, storms, insects, diseases, and fires). Landscapes feature a structurally diverse mid- to late successional forest community with a forested canopy, with occasional pastoral and historic/cultural enclaves. The valued character of the natural appearing and cultural landscapes either appears intact or is actually intact. There are no noticeable deviations.

DC 12-04: Prescribed fire plays an important role in the maintenance of forested communities found throughout this management prescription area. Prescribed fire is used to restore and maintain threatened and endangered species habitats, to ensure the continued presence of fire-dependent southern yellow pine and oak woodland ecosystems, to maintain fire-adapted forested communities, and to reduce fuel buildups. Naturally ignited wildfires are used for achieving ecological objectives when possible.

DC 12-05: Aside from these occasional management activities, natural processes will eventually result in a large patch old growth forest matrix throughout most of this area interspersed with naturally occurring brushy and herbaceous openings. Cavity trees, cull trees, standing dead trees, and down logs will be common throughout the area as a result of natural mortality. Occasional large openings of early successional habitat may be created through natural disturbance.

DC 12-06: Wildlife openings and old field habitats are maintained in a grass/forb or shrub/scrub condition. Wildlife species associated with area-sensitive mid- to late successional deciduous forest habitats are expected to inhabit this area. The protection of rare communities and species associates will be provided, along with protection measures for population occurrences for threatened, endangered, sensitive, and locally rare species.

STANDARDS FOR 12D - REMOTE BACKCOUNTRY AREAS

Terrestrial and Aquatic Species

12D-001 Existing old fields, pastoral areas, wildlife openings, and other wildlife habitat improvements may be present and maintained. Expansion of existing openings and/or creation of new openings may occur if permitted under standard 12D-006 (1). Non-invasive non-natives are sometimes used when establishing food plants for wildlife, but native species are preferred. Some openings provide permanent shrub/sapling habitats as a result of longer maintenance cycles.

Vegetation and Forest Health

12D-002 Allow control of insect and disease outbreaks when necessary to protect scenic and recreational values, to reduce hazards to visitors, or for safety and legal reasons. When actions are needed, first consider biological controls, secondly hand-control methods, and finally pesticides. Utilize the least ecologically disruptive technique that will accomplish control of the pest.

12D-003 Suppression and eradication of non-native pests are allowed.

12D-004 Tree cutting may occur incidental to other management activities such as trail construction, maintenance, removal of hazard trees, fireline construction, benefit rare communities, etc. Mechanical equipment such as chainsaws is permitted.

Timber Management

12D-005 These lands are unsuitable for timber production. Timber harvest is generally not allowed, subject to valid existing rights.

12D-006 Timber may be cut, sold, or removed if one of the following circumstances exists. The cutting, sale, or removal of timber in these areas is expected to be infrequent.

- (1) The cutting, sale, or removal of generally small diameter timber is needed for one of the following purposes and will maintain or improve one or more of the remote area characteristics:
 - (i) To improve threatened, endangered, proposed, or sensitive species habitat; or
 - (ii) To maintain or restore the characteristics of ecosystem composition and structure, such as to reduce the risk of uncharacteristic wildfire effects, within the range of variability that would be expected to occur under natural disturbance regimes of the current climatic period;
- (2) The cutting, sale, or removal of timber is incidental to the implementation of a management activity not otherwise prohibited; or
- (3) The cutting, sale, or removal of timber is needed and appropriate for personal or administrative use.

Non-timber Forest Products

12D-007 Personal use firewood cutting is permitted within 100 feet of roads.

Wildland Fire Management

- 12D-008 Prescribed fire and wildfires are allowed to reduce wildland fire potential due to high fuel loadings, improve and maintain wildlife habitat, or to benefit fire-dependent and associated species such as table mountain pine and oak forests. Use natural fuel breaks such as streams, roads, rock slides, etc. where possible to minimize fireline construction.

Recreation

- 12D-009 These backcountry recreation areas are managed for the Semi-Primitive Non-Motorized (SPNM) or Semi-Primitive Motorized (SPM) Recreation Opportunities although inventoried ROS classes range from Semi-Primitive Non-Motorized (SPNM) to Roaded Natural (RN). See ROS Map.
- 12D-010 New non-motorized trails are allowed on case-by-case basis when there is a demonstrated need, interest, a partnership with user group committed to maintenance, and air, soil, vegetation and water resources are protected.
- 12D-011 Existing motorized roads and trails are monitored for impacts to soil and water quality and problems mitigated. Roads and motorized trails identified as problems are reconstructed, relocated, or decommissioned.
- 12D-012 Seasonal closures are used when needed to protect soil, water, and wildlife habitat security.

Scenery

- 12D-013 Management activities are designed to meet or exceed a High Scenic Integrity Objective.

Range

- 12D-014 Livestock grazing is not permitted.

Minerals

- 12D-015 These areas are suitable for federal oil and gas leasing with a no surface occupancy stipulation. Other Federal minerals may be available on a case-by-case basis after full consideration of effects on semi-primitive recreation opportunities and values. The Laurel Fork area is not suitable for federal oil and gas leasing.
- 12D-016 These areas are not available for mineral materials for commercial or personal purposes. Administrative or free use of mineral materials is allowed when: a) the materials are used within the backcountry area itself; and b) use is necessary to protect the resources and values of the area.
- 12D-017 Private mineral rights exist in some 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.

Roads

- 12D-018 Roads may not be constructed or reconstructed unless:
- (1) A road is needed to protect public health and safety in cases of an imminent threat of flood, fire, or other catastrophic event that, without intervention, would cause the loss of life or property;
 - (2) A road is needed to conduct a response action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or to conduct a natural resource

restoration action under CERCLA, Section 311 of the Clean Water Act, or the Oil Pollution Act;

- (3) A road is needed pursuant to reserved or outstanding rights, or as provided for by statute or treaty;
- (4) Road realignment is needed to prevent irreparable resource damage that arises from the design, location, use, or deterioration of a system road that cannot be mitigated by road maintenance. Road realignment may occur under this paragraph only if the road is deemed essential for public or private access, natural resource management, or public health and safety;
- (5) Road reconstruction is needed to implement a road safety improvement project on a system road determined to be hazardous on the basis of accident experience or accident potential on that road;
- (6) The appropriate decision-maker determines that a Federal Aid Highway project, authorized pursuant to Title 23 of the United States Code, is in the public interest or is consistent with the purposes for which the land was reserved or acquired and no other reasonable and prudent alternative exists; or
- (7) A road is needed in conjunction with the continuation, extension, or renewal of a mineral lease on lands that are under lease or for a new lease issued immediately upon expiration of an existing lease. Such road construction or reconstruction must be conducted in a manner that minimizes effects on surface resources, prevents unnecessary or unreasonable surface disturbance, and complies with all applicable lease requirements, land and resource management plan direction, regulations, and laws. Roads constructed or reconstructed pursuant to this paragraph must be obliterated when no longer needed for the purposes of the lease or upon termination or expiration of the lease, whichever is sooner.

12D-019 Maintenance of system roads is permissible. Along roads that form the boundary of these areas, minor road relocation and vegetation management for road maintenance is allowed within 100 feet of the road.

Lands and Special Uses

12D-020 These areas are unsuitable for wind energy development.

13 – MOSAICS OF HABITAT

EMPHASIS

The Forestwide vision describes the desired condition for ecological systems diversity. This diversity will be achieved through many different practices across the Forest in many of the management prescription areas. Creating and maintaining the diverse ecosystems requires active management activities in some cases. Prescribed fire can be used in many areas of the Forest, but it is a strong emphasis in this prescription area. This prescription area is also the predominant area where timber harvest will be used to create and maintain the ecosystem diversity objectives and where wildlife habitat management activities will be focused for both ecological objectives and recreational (hunting and wildlife viewing) objectives. Another primary objective will be meeting the demand for timber products through timber harvest, salvage of dead and dying trees, and personal use for firewood. There are approximately 508,000 acres allocated to this management prescription area.

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 often 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. On drier sites a more open woodland character is present with a more diverse understory of shrubs, grasses and forbs. Southern yellow pines increase as sites become drier on south-facing slopes and towards the ridge tops. On drier, xeric pine/hardwood sites, a simpler midstory structure exists. 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.

DESIRED CONDITIONS FOR 13 - MOSAICS OF HABITAT

DC 13-01: The landscape character of this area generally retains a natural, forested appearance. The landscape features structurally diverse forest communities, ranging from rich cove and mesic hardwood/pine forests, with predominantly closed canopies, to xeric pine/hardwood open woodlands, with a mosaic of grass/forb/shrub understories. A mid- to late-successional forest greater than 40 years of age dominates the landscape, but is interspersed with forest communities greater than 100 years of age and temporary and permanent grasslands and shrublands, providing diversity for both wildlife habitat and scenic attractiveness.

DC 13-02: In cove and mesic hardwood/pine forests, with predominantly closed canopies, species needing large areas of mature trees with some level of overstory structural diversity (canopy gaps) are present. In mature mesic and xeric pine/hardwood open woodlands, with a mosaic of grass/forb/shrub understories, species needing large areas of both mature trees and an open structure are present. In addition, xeric pine/hardwood open woodlands provide habitat for post-breeding and migratory stop-over needs for birds species normally associated with forest interior habitat for breeding. A dispersed system of temporary and permanent forest openings and old fields exist, providing herbaceous and shrubby ground cover and abundant insect populations for breeding, post-breeding, and migrating species, such as birds and bats.

DC 13-03: Openings for early successional habitats include: meadows/old fields, shrub/scrub-brushy fields, beaver meadows, recreational openings, orchard openings, wildlife viewing areas, mine reclamation sites, special use areas, utility corridors, gas and oil well sites, stream/riparian zones, wetlands (bogs, fens, marshes, swamps), balds, rock outcrops and talus. Permanent to semi-permanent herbaceous openings are present on up to five percent of the lands and include maintained wildlife openings, linear wildlife openings (seeded log roads), log landings, woodland savannahs and grassland savannahs that will be maintained by annual mowing, rotational mowing or by prescribed fire.

DC 13-04: The following table describes the desired conditions for the major forested ecological system groups in MA Rx 13. The desired conditions for early successional habitat are higher than those identified in the forestwide desired conditions, because this is the main management prescription area where timber harvest

will be used as a tool to create early successional habitat. For the same reason, the desired condition for open areas in this management prescription area is 5%.

Table 4-12. Desired Conditions for Management Prescription Area 13

Ecological System Group	% of Area in 0-10 Age Class	% of Area in Mid - Late Open Canopy Condition
Cove Forests	4-6	6-12
Northern Hardwood Forest	5-7	8-12
Oak Forests and Woodlands	9-11	60-70
Pine Forests and Woodlands	9-11	70-80

DC 13-05: Early successional habitat in the 2100 to 4000-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 area-sensitive or area dependent species.

DC 13-06: Fire-adapted and fire-dependent ecosystems are plentiful. Open woodland conditions are common and this habitat is enhanced from the integrated use of timber harvest and prescribed burning, independently or concurrently on the same acres in an integrated fashion.

DC 13-07: 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, 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.

DC 13-08: 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 and future den trees will be recruited over the long term on the many acres in older age classes.

DC 13-09: Water sources for wildlife, including ephemeral ponds for herpetofauna, are present.

DC 13-10: 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.

DC 13-11: A diversity of tree species of mast bearing age in dominant and co-dominant crown classes is common. Trees with open-grown crowns receiving plenty of sunlight produce the most acorns and the creation of openings two 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. A diversity of forest age classes is also important in these areas to provide soft mast and herbaceous vegetation.

DC 13-12: Forest product commodity outputs contribute to the social and economic wellbeing of the people living in the area and help maintain a way of life long associated with those living within the area. Timber harvesting is apparent and uses sale layout and design to accommodate visual considerations through innovative harvesting techniques and sale layout. Timber growth on suitable land is emphasized at a higher

level than other management prescription areas but well within the biological capabilities for sustained yield production.

DC 13-13: Roads provide access for management activities and access for various recreational experiences such as hunting and wildlife viewing. Roadsides can also provide additional open canopy habitat. However, roads also may disturb some wildlife species, particularly during breeding, nesting and brooding times and much of the area will be managed with seasonal road closures to protect physical and biological resources and wildlife habitat.

DC 13-14: A range of recreational settings from roaded frontcountry to more remote areas are found in this area. Access is provided through portions of the area on Forest Service and State roads with a gravel or native surface. Challenging opportunities may exist for high-clearance and 4-wheel drive vehicles on open roads.

DC 13-15: Forest visitors on foot, horse, or bikes may experience some solitude in portions of this prescription area where roads are managed as closed. Levels of personal challenge are moderate to low. 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 photography, hunting, hiking, equestrian use, mountain biking and dispersed camping.

DC 13-16: Meeting the Scenic Integrity Objectives within this prescription allows for human activities that mimic the natural disturbances consistent with each ecological system.

Standards for 13 - Mosaics of Habitat

Terrestrial and Aquatic Species

13-001 Existing old fields, pastoral areas, wildlife openings, and other wildlife habitat improvements may be present and maintained. Expansion of existing openings and/or creation of new openings may occur. Non-invasive non-natives are sometimes used when establishing food plants for wildlife, but native species are preferred. Some openings provide permanent shrub/sapling habitats as a result of longer maintenance cycles.

Vegetation and Forest Health

13-002 Manage for a diversity of oak species to minimize yearly fluctuations in acorn supplies.

13-003 The forest health strategy is to minimize the occurrence of pest problems by managing host-type conditions. Suppression of pests, both non-native and native, is accomplished with all available integrated pest management tools.

13-004 Proactively manage species composition and tree vigor in stands at a level that reduces susceptibility to damage from insect and disease infestations and other forest health problems like oak decline. Suppress native and non-native insects and diseases using an integrated pest management approach.

Timber Management

13-005 Timber production is a suitable use in these areas. Some portions of the areas are identified as unsuitable for timber production due to the timber suitability analyses in Appendix C.

13-006 Use even and uneven-aged silvicultural systems. Uneven-aged forest management (e.g. group selection, individual tree selection) practices are designed to result in forest structure and composition consistent with late-successional deciduous forest habitats over the long-term.

- 13-007 New non-motorized trails are allowed on a case-by-case basis when there is a demonstrated need, interest, a partnership with one or more user groups committed to maintenance, and air, soil, vegetation and water resources are protected.
- 13-008 Within potential wilderness areas, new recreation facilities are restricted to the minimum needed for the protection of resources.
- 13-009 Interpretive facilities and services including signs, viewing areas and self-guided programs may be provided to enhance visitor appreciation and understanding of the diversity of ecological systems with an emphasis on open woodlands and fire-adapted and fire-dependent communities.
- 13-010 Thinning and group selection may be employed to increase the structural diversity of the prescription area.
- 13-011 Thinning is frequently used to increase volume production and tree vigor and manage species composition. Uneven-aged management, using group selection, may be employed to reduce impacts to scenery.
- 13-012 Regeneration harvest areas range in size from 2 to 40 acres.
- 13-013 Regeneration harvest areas are primarily coppice with reserves with 15-25 square feet of basal area per acre left to ensure adequate sunlight for oak regeneration and two-aged silvicultural systems which leave 20-40 square feet of basal area per acre. In order to provide vertical diversity and future mast production, the residual stand should be primarily composed of former co-dominant trees.
- 13-014 Clearcut harvest systems may occur when necessary to achieve specific wildlife habitat objectives. Thinning and group selection silvicultural systems are also employed to provide the structural diversity required by some species within this habitat association.
- 13-015 Regenerate pine forest types artificially or naturally to native pine species that commonly occur within the same land type association. Regenerate pine-hardwood forest types artificially or naturally to mixed pine-hardwood stands of native species that commonly occur within the same land type association.
- 13-016 Salvage of dead and dying trees is allowed.

Non-timber Forest Products

- 13-017 Commercial and personal use firewood collection is allowed.

Wildland Fire Management

- 13-018 Prescribed fire and wildfire may be used to: create open woodland habitat conditions; create openings that stimulate soft mast production and browse; encourage oak sprouting; maintain, restore, and enhance native forest communities; ensure the continued presence of fire-dependent ecosystems; improve threatened, endangered, sensitive, and locally rare species habitat; and reduce fuel buildups. It is also used in conjunction with site preparation to accomplish silvicultural treatments.

Recreation

13-019 Wildlife openings, including linear strips, are signed to protect established vegetation from recreational use (e.g. horseback riding, mountain biking, off-highway vehicle use, and camping) when a reoccurring problem of resource damage exists.

Scenery

13-020 Management activities are designed to meet or exceed the following Scenic Integrity Objectives:

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

H=High; M=Moderate; L=Low

13-021 Clustering of early successional habitats occurs primarily within scenic classes 3 through 7.

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