APPENDIX A – Forest Standards and Guidelines and Mitigation Measures

Mitigation Measures

Herbicide Use - Triclopyr and glyphosate will not be applied within 50 feet of any continuous stream channel, spring, or seep. Herbicide will not be applied during periods of precipitation, or when the soil is saturated. Use of triclopyr and glyphosate will be strictly according to label instructions, and supervised by a certified applicator as required by West Virginia State law. Rates of application will not exceed, on the average, 1 lb/ac for Garlon 3A, and 4 lb/ac for Garlon 4. Treatment of individual stems by hand treatment methods will help limit the quantity of herbicide actually used. None of the savannahs is near a functioning stream channel. All five savannahs will have wide filterstrip areas between potential areas of herbicide use and the nearest stream channel. The forest floor and filterstrip width will effectively trap herbicides from movement downslope, and facilitate herbicide degradation within the soil.

The potential for adverse effects to fish and aquatic macroinvertebrates from the use of herbicides would be further mitigated by a number of other factors that would be applicable to this project. These additional mitigating factors include:

a. Herbicides would only be used in the event that prescribed fire treatments have not been possible to carry out (due to poor burning conditions), or have been ineffective in controlling unwanted target vegetation.
b. Herbicides would only be used in a maximum of five savannahs (#1, 2, 6, 7, 8) if needed, and these five total about 26 acres. No herbicide use would occur outside these five savannahs.
c. Herbicide application methods would be restricted to hand treatment of individual woody stems (by cut surface application or basal spray) within the 5 savannahs. No mechanical applications or broadcast spray methods would be used. Treatment of individual stems by hand treatment methods would help limit the quantity of herbicide actually used.
d. None of the savannahs is near a functioning stream channel. All five savannahs would have wide filterstrip areas between potential areas of herbicide use and the nearest stream channel. The forest floor and filterstrip width would effectively trap herbicides from movement downslope, and facilitate herbicide degradation within the soil.

Prescribed Burning - All prescribed burns will comply with a Prescribed Burning Plan approved by the Responsible Official. Control lines constructed for the prescribed burn, that expose mineral soil will have drainage structures (waterbars or dips) installed to limit soil loss. Spacing of the drainage structures will depend on the slope and proximity to a stream channel. Maintain an unburned buffer along Douthat Creek of at least 100 feet. Restrict dozer fireline construction within the filterstrip of Kline Hollow on both sides of the hollow; use hand fireline construction within the filterstrip. Incorporate soil and water monitoring into a monitoring plan for the prescribed burn activities, to document any erosion and sedimentation effects of repeated watershed burning.

Recreation – The section of the Middle Mountain Trail common to the project area will be temporarily closed to public use during active harvest operations and construction activity. Closure signs will be posted at entry points along the trail, and public notices will be posted at trailheads. Efforts will be made to avoid scheduling harvest activities during the spring turkey and fall buck hunting seasons, to avoid disruptions to hunters. The District Ranger may temporarily close FR 790 and FR 962 to Class Q hunting if management activities will threaten public safety. This hunting opportunity could be temporarily relocated to FR 300, Marlin Mountain, if needed.

Within savannah areas, slash piles will be located away from the trail corridor to reduce visual concerns. Contractors will be required to remove slash from the trail corridor, and to buck and scatter slash adjacent to the trail. Rutting of the trail will be repaired as soon as possible after harvest or construction activities are completed. Efforts will be made to re-vegetate the Middle Mountain Trail #408 surface as soon as practical.

Cultural Resources: Known cultural resource sites will be marked and avoided during project implementation. Avoidance could occur through either directional felling away from the site or a buffer comprising the height of the nearest possible fell, plus one-half the height.
As the timber is cruised and marked, and during the course of project implementation, Forest Service staff should be aware of the potential for locating additional historic and prehistoric sites in the project area. If a site is located, the Forest Archaeologist will be notified and an appropriate avoidance strategy determined.

Riparian Zones: Wildlife water holes should be located well upslope of the tops of functioning (ephemeral) stream channels. Ponds will be located as close to the ridgetops as is practical, considering other factors such as soil depth and water-holding capacity (see Soils recommendations). This recommendation is to reduce the risk of ponds capturing too much concentrated runoff in stormflow or snowmelt conditions, and then overtopping with pond breaching and channel erosion below. Protect riparian resources of all perennial, intermittent and ephemeral streams by applying the riparian buffer protection measures. Perennial streams will have a minimum no harvesting buffer of 100 feet, intermittent streams 50 feet and ephemeral streams 25 feet along both sides of the stream channel.

Soils: Skid routes should be located to minimize soil and filterstrip disturbance, avoid functioning stream channel crossings, utilize existing old skid routes, and avoid the steeper and wetter areas within the units and areas of disturbance to the maximum extent practical. Overland skidding should be used wherever practical, especially in those areas of the more gentle terrain when soil and wetness conditions will support it.

- Rip severely compacted areas expected to grow future biomass (primary skid trails, log landings).
- Gravel will be an accepted source of mulch that helps to prevent erosion and road bed failures that result in rutting- this has been observed on a regular basis across the forest.
- Gravel approaches to stream channels on roads.
- Skidding/hauling suspended during periods where soils are 1) saturated due to high levels of precipitation when air temperatures are above freezing; 2) thawing during winter months after periods of being frozen; 3) and under any other conditions that will occur that soils will appear to be saturated.

- Seed and mulch all disturbed soils that are disturbed into the mineral horizon. Seed will be native and/or annual grass; mulch will be relatively weed free.
- Lime and fertilizer will be applied where needed. Soil testing may be done to identify rates of application.

Timing Restrictions - There will be no timber harvest operations for the first week of deer gun season (normally the week of Thanksgiving) in any commercial timber harvest unit without prior written permission from the Timber Sale Contracting Officer and/or the District Ranger.

Forest Standards and Guidelines (Design Criteria)

Air Quality

Forest Service Manual and Handbook management direction for air quality is in FSM 2500 - Watershed and Air Management.

Management Direction for Air Quality		
Type	**Number**	**Direction Description**
Standard	AQ03	Use screening procedures specific to federal land manager AQRV guidance when reviewing Prevention of Significant Deterioration (PSD) permits.
Standard	AQ04	Conduct management activities (including permitted activities) in a manner that does not result in a significant contribution to a violation of National Ambient Air Quality Standards, a violation of applicable provisions in the State Implementation Plan.
See also Fire Management Goal FM08 and Standards FM12, FM14, FM15, FM16. Additional management direction for Class I areas can be found in the Air Quality section of Management Prescription 5.0 – Designated Wilderness - in Chapter III.		

Soil and Water Resources

Forest Service Manual and Handbook management direction for soil and water resources is in FSM 2500 - Watershed and Air Management, and FSM 3500 - Cooperative Watershed Management; and in FSH 2500, 2509.13 - Burned-Area Emergency Rehabilitation, FSH 2509.18 - Soil Management, and FSH 2509.22 - Soil and Water Conservation.

Management Direction for Soil and Water		
Type	**Number**	**Direction Description**
Soils		
Standard	SW03	Disturbed soils dedicated to growing vegetation shall be rehabilitated by fertilizing, liming, seeding, mulching, or constructing structural measures as soon as possible, but generally within 2 weeks after project completion, or prior to periods of inactivity, or as specified in contracts. Rip compacted sites when needed for vegetative re-establishment and recovery of soil productivity and hydrologic function. The intent is to minimize the time that soil is exposed on disturbed sites or retained in an impaired condition.
Standard	SW04	Erosion prevention and control measures shall be used in program and project plans for activities that may reduce soil productivity or cause erosion.

Management Direction for Soil and Water		
Type	**Number**	**Direction Description**
Standard	SW05	Maintain at least 85 percent of a vegetation management activity area in a non-detrimentally disturbed condition. Existing system roads and trails, and other administrative facilities within the activity area, are not considered detrimentally disturbed conditions when assessing compliance with this standard.
Standard	SW06	Severe rutting resulting from management activities shall be confined to less than 5 percent of an activity area.
Standard	SW07	Use of wheeled and/or tracked motorized equipment may be limited on soil types that include the following soil/site area conditions: a) Steep Slopes (40 to 50 percent) – Operation on these slopes shall be analyzed on a case-by-case basis to determine the best method of operation while maintaining soil stability and productivity. b) Very Steep Slopes (more than 50 percent) – Use is prohibited without recommendations from interdisciplinary team review and line officer approval. c) Susceptible to Landslides – Use on slopes greater than 15 percent with soils susceptible to downslope movement when loaded, excavated, or wet is allowed only with mitigation measures during periods of freeze-thaw and for one to multiple days following significant rainfall events. If the risk of landslides during these periods cannot be mitigated, then use is prohibited. d) Soils Commonly Wet At Or Near The Surface During A Considerable Part Of The Year, Or Soils Highly Susceptible To Compaction. Equipment use shall normally be prohibited or mitigated when soils are saturated or when freeze-thaw cycles occur.
Standard	SW08	Management actions that have the potential to contribute to soil nutrient depletion shall be evaluated for the potential effects of depletion in relation to on-site acid deposition conditions.
Standard	SW09	Winter logging is allowed but may only be used where it will meet Forest-wide soil and water quality standards.
Guideline	SW10	Inventory the soil resource to the appropriate intensity level as needed for project planning and/or design considerations.
Guideline	SW11	Soil stabilization procedures should take place as soon as practical after earth-disturbing activities are completed or prior to extended periods of inactivity. Special revegetation measures may be required.
Guideline	SW12	Use Forest-wide soils map(s) and county soil survey report interpretations to help determine soil characteristics and protection needs.
Guideline	SW13	Consider liming soils with a surface pH of less than 5.5 on seeding projects, except where there is an objective to maintain acidic ecosystems.
Guideline	SW14	Mulch should be applied on severely eroded areas, or areas with high potential for erosion, such as new road cut and fill slopes.
Guideline	SW15	Topsoil should be retained to improve the soil medium for plant growth on areas to be disturbed by construction. Topsoil should be salvaged from an area during construction and stockpiled for use during subsequent reclamation, or obtained from an alternate site. On some areas, soil material may have to be added to obtain vigorous plant growth. Soil to be used for this purpose should have chemical tests made to determine its desirability for use.
Guideline	SW16	Where the removal of vegetative material, topsoil, or other materials may result in erosion, the size of the area may be limited from which these materials are removed at any one time.
Guideline	SW17	During watershed or project-level analysis, incorporate soil protection or improvement into project planning through an awareness of: a) Soil, geology, and landform conditions; b) The inherent capability of the soils involved; and c) The degree and duration of soil disturbance.
Guideline	SW18	Topsoil or substitute materials used in reclamation should consist of friable soil reasonably free of grass, roots, weeds, sticks, stones, or other foreign material.

Management Direction for Soil and Water		
Type	**Number**	**Direction Description**
Guideline	SW19	Management activities that may result in accelerated erosion and loss of organic matter should have one or more of the following practices applied to mitigate potential effects: a) Limiting mineral soil exposure, b) Appropriately dispersing excess water, c) Ensuring sufficient effective groundcover, d) Stabilizing disturbed soils through revegetation, mulching, or other appropriate means, e) Preventing or minimizing excessive compaction, displacement, puddling, erosion, or burning of soils, and f) Preventing or minimizing the initiation or acceleration of mass soil movement (e.g., slumps, debris flows, or landslides).
Water Quality and Hydrology		
Standard	SW23	Logging and construction equipment shall not be washed in stream courses, nor shall material from washed equipment be allowed to drain into surface waters.
Standard	SW24	No new grazing allotments shall be permitted within municipal watersheds.
Guideline	SW25	New road crossings of stream channels should be located at least one mile upstream from a municipal intake.
Guideline	SW26	Management activities should maintain stream flow regimes to provide for channel stability and stream functions that support healthy riparian habitat, aquatic habitat, and downstream uses.
Guideline	SW27	Project activities proposed within municipal watersheds should be coordinated with the water district or municipality served, if the activities have the potential to affect the municipal water supply.
Guideline	SW28	Soil and water resource improvements within municipal watersheds should be prioritized by the following criteria: a) Protection of public health b) Maintenance of previous capital investments and improvements in the production of market goods and services. c) Improvement of all other renewable resources.
Stream Channels, Lakes, and Wetlands		
Standard	SW34	No programmed timber harvest shall occur within the channel buffers identified in the table in SW37. Tree removal from the buffers may only take place if needed to meet aquatic or riparian resource management needs, or to; a) Provide habitat improvements for aquatic or riparian species, or threatened, endangered, sensitive, and locally rare species; b) Provide for public or worker safety; c) Construct or renovate an approved facility; d) Construct temporary road, skid road, or utility corridor crossings; e) Conduct aquatic or riparian-related research, or f) Allow for cable yarding.
Standard	SW35	Where new roads and skid roads cross stream channels, channel and bank stability shall be maintained.
Standard	SW36	When stream crossing structures are removed, stream channels shall be restored to their near-natural morphology (width, depth, and gradient associations for streambeds, bands, floodplains, and terraces). Disturbed soil shall be stabilized.

<table>
<tr><th colspan="3">Management Direction for Soil and Water</th></tr>
<tr><th>Type</th><th>Number</th><th>Direction Description</th></tr>
<tr><td>Standard</td><td>SW37</td><td>During project-level planning and implementation, determine channel buffers for streams that would potentially be affected by proposed activities. The following table represents default buffer widths to be applied to both sides of the channel.

<table><tr><th>Stream Classification</th><th>Buffer Width</th></tr><tr><td>Perennial</td><td>100 feet</td></tr><tr><td>Large Intermittent (>50-acre drainage area)</td><td>100 feet</td></tr><tr><td>Small Intermittent (<50-acre drainage area)</td><td>50 feet</td></tr><tr><td>Ephemeral</td><td>25 feet</td></tr></table>
Buffer widths may be adjusted based on interdisciplinary review and site-specific field investigation. The buffers shall, at a minimum, encompass the riparian area defined on the basis of soils, vegetation and hydrology and the ecological functions and values associated with the riparian area.</td></tr>
<tr><td>Standard</td><td>SW38</td><td>The removal of large woody debris is allowed if it poses a risk to water quality, degrades habitat for aquatic or riparian wildlife species, or when it poses a threat to public safety (e.g., water recreation), private property, or Forest Service infrastructure (e.g., bridges). The need for removal is determined on a case-by-case basis with consideration for aquatic and riparian resource needs.</td></tr>
<tr><td>Standard</td><td>SW39</td><td>Use no-till cultivation methods for wildlife opening maintenance within channel buffers.</td></tr>
<tr><td>Standard</td><td>SW40</td><td>Skid trails and landings shall not be constructed within 100 feet of perennial, intermittent, and ephemeral channels except at crossings or when location outside the 100-foot zone pose a greater risk to aquatic or riparian resources. The 100-foot filter strip may be modified based on site-specific conditions such as soil type, slope, and stability.</td></tr>
<tr><td>Standard</td><td>SW43</td><td>Channel buffers shall not be available for commercial mineral material development.</td></tr>
<tr><td>Standard</td><td>SW47</td><td>Personal use firewood shall not be removed from stream channels or banks.</td></tr>
<tr><td>Guideline</td><td>SW48</td><td>Existing trails in channel buffers may be reconstructed or relocated to reduce impacts to riparian and aquatic resources.</td></tr>
<tr><td>Guideline</td><td>SW49</td><td>Closure orders may be used to control environmental impacts caused by dispersed recreation.</td></tr>
<tr><td>Guideline</td><td>SW50</td><td>Maintained wildlife openings and associated access routes identified as degrading riparian or aquatic conditions should be mitigated or closed and restored. New wildlife openings within channel buffers may occur where needed to provide habitat for riparian species, or TEP, RFSS, or locally rare species, and where maintenance for these openings and their access routes can be achieved without degrading riparian or aquatic conditions.</td></tr>
<tr><td>Guideline</td><td>SW51</td><td>Ground disturbance should be avoided within seeps, vernal pools, bogs, fens, and other wetlands during project implementation. These areas should be managed to protect wet soils and rare plants and provide wildlife watering sources using the following protection:
a) No new system roads or skid roads should be located within these areas except at essential crossings. Such crossings should be designed to minimize disturbance to the extent practical.
b) Logs should not be skidded through these areas. Keep slash and logs out of them.
c) Where available, a canopy of 60-100 percent crown closure should be maintained within and adjacent to these areas, unless a more open canopy is needed for TEP species or RFSS management.
d) Mast trees or shrubs may be planted in seeps if mast plants are currently lacking.</td></tr>
<tr><td>Guideline</td><td>SW53</td><td>Use existing fire barriers, such as streams, roads, and trails for control lines where possible.</td></tr>
<tr><td>Guideline</td><td>SW54</td><td>Hand lines, wet lines, or black lines should be used where appropriate within channel buffers to minimize soil disturbance from fire suppression or control.</td></tr>
<tr><td>Guideline</td><td>SW59</td><td>Where private minerals are explored or developed within channel buffers, work with mineral developers to minimize disturbance to aquatic and riparian resources.</td></tr>
</table>

Management Direction for Soil and Water		
Type	**Number**	**Direction Description**
See also Fire Management Goal FM03, Vegetation Goal VE01, Wildlife and Fish Goal WF04, Wild and Scenic River Goal WS02, Range Goal RA03, Minerals Goal MG02, Lands and Special Uses Goals LS17 and LS20, Roads and Facilities Goal RF02, Wildlife and Fish Objective WF12, Roads and Facilities Objective RF03, Fire Management Standard FM12, Vegetation Standards VE32 and VE34, Wildlife and Fish Standard WF14, Heritage Resources Standards HR05 and HR06, Timber Standards TR05 and TR08, Range Standards RA04, RA12, RA13, RA14, RA15; Minerals Standards MG 08, MG12, MG13, MG 15, MG17, MG32, MG33, MG34, MG38, MG41, MG42, MG43, MG48; Lands and Special Uses Standards LS23 and LS24, Roads and Facilities Standards RF06, RF07, RF29; Fire Management Guidelines FM19 and FM20, Vegetation Guideline VE06, Wildlife and Fish Guidelines WF19, WF21, WF22; Recreation Guideline RC32, Scenery Guidelines SM04 and SM05, Heritage Guideline HR12, Timber Guidelines TR10 and TR11, Range Guideline RA18, Minerals Guidelines MG20 and MG24, Lands and Special Uses Guideline LS05, Roads and Facilities Guidelines RF09, RF10, RF13, RF14, RF23.		

Fire Management

Forest Service Manual and Handbook direction for fire management is in FSM 5100 – Fire Management, and in FSH 5109.

Management Direction for Fire Management		
Type	**Number**	**Direction Description**
Standard	FM12	A prescribed burning plan must be prepared and approved prior to using prescribed fire as a management tool. The plan shall address protection or maintenance of TEP species and habitat, cultural resources, watershed resources, air quality, private property, and other resources or investments as needed or appropriate.
Standard	FM13	Wildland Fire Use may only occur under a fire management plan that evaluates a full range of management responses.
Standard	FM14	Use best available smoke management practices in prescribed fire design and implementation to avoid or mitigate adverse effects on public health and safety, or visibility in the Dolly Sods and Otter Creek Wilderness class I areas.
Standard	FM15	All managed burns must comply with Smoke Management Programs for West Virginia when these are implemented.
Standard	FM16	Demonstrate conformity with the State Implementation Plan for any prescribed fire planned within EPA designated “non-attainment” and “maintenance” areas.
Guideline	FM17	Activity fuels should be managed at a level commensurate with the allowable fire intensity and rate of spread that meets resource objectives.
Guideline	FM18	Fire detection should be accomplished through the least expensive and most practical technique as demonstrated by historic patterns of local interaction (i.e., local citizens support fire suppression and detection efforts and promptly report wildfires to their local volunteer fire departments).
Guideline	FM19	Fire suppression forces should select the least resource-damaging suppression techniques based on human safety, potential loss of resources, and cost effectiveness. Mechanized equipment and fire retardants are allowed suppression techniques. Confinement may be an appropriate suppression strategy. Mechanized equipment may be used in stream channel buffers during fire emergency situations.
Guideline	FM20	After a fire is controlled, rehabilitate those areas that have the potential to adversely affect soil, water, or other resources. Fire lines should be revegetated and water-barred, where necessary, to prevent erosion. Water diversions may be used to keep sediment out of channels.

Management Direction for Fire Management		
Type	**Number**	**Direction Description**
See also Vegetation Goal VE01, Air Quality Standard AQ04, Vegetation Standards VE13 and VE22, TEP Species Standard TE72, Wildlife and Fish Standard WF13, Recreation Standard RC28, Heritage Resources Standards HR05 and HR06, Roads and Facilities Standard RF19, Soil and Water Guidelines SW53 and SW54, Wildlife and Fish Guideline WF16, Heritage Resources Guideline HR12, Lands and Special Uses Guideline LS05, Roads and Facilities Guideline RF16.		

Vegetation

Forest Service Handbook management direction for vegetation is in FSH 2409.17 - Silvicultural Practices Handbook. Forest Service Manual and Handbook management direction for snags and coarse woody debris is in FSM 5150 – Fuels, FSM 2550 - Soil Management, and FSH 2509.18 - Soil Management Handbook. Direction for Threatened, Endangered, and Sensitive Plants is in FSM 2670 - Threatened, Endangered and Sensitive Plants and Animals. Direction for pesticide use management is in FSM 2150.

Management Direction for Vegetation		
Type	**Number**	**Direction Description**
Vegetation Diversity		
Guideline	VE04	Use lands unsuited for timber production (MPs 5.0, 6.2, 5.1, portions of 8.0) as patches of potential old growth. In MPs with suitable timberlands (MPs 3.0, 6.1, portions of 4.1), identify potential old growth areas based on management direction and emphasis, as well as information on delineating potential old growth in Appendix B.
Guideline	VE05	To provide for dispersion of vegetation diversity and a meaningful analysis of cumulative effects, mid-level and project planning should use watersheds (5^{th} - 7^{th} level, typically) as a unit of measurement to identify opportunities and analyze effects for vegetation management projects. Exceptions can be made for site-level activities such as hazard tree removal, localized timber stand improvement, or salvage.
Guideline	VE06	Native plant species should be used to revegetate, restore, or rehabilitate lands where natural regeneration is not likely to occur in a timely manner. Non-native, non-invasive plant species may be used: a) When needed in emergencies to protect resources (soil stability, water quality, etc) b) As an interim non-persistent measure to help re-establish native plants c) When native plant species are not available d) In permanently altered plant communities. When project objectives justify the use of non-native plant materials, documentation explaining why non-natives are preferred should be part of the project planning process.
See also the Vegetation Desired Conditions, Goals, and Objectives for Management Prescriptions 3.0, 4.1, and 6.1.		
Rare Plants and Regional Forester's Sensitive Plant Species		
Standard	VE12	Allow collection of RFSS plants only for research or scientific purposes.
Standard	VE13	For management actions that have been identified by the Forest as likely to cause a negative effect on RFSS populations, negative effects shall be avoided or minimized to the maximum extent practical while still accomplishing the purpose of the project or action. Unavoidable negative effects shall be mitigated to the extent practical and consistent with the project purpose.

Management Direction for Vegetation		
Type	**Number**	**Direction Description**
Guideline	VE14	Rare communities should be identified during project analysis. Management actions should avoid rare communities unless management is necessary to maintain, enhance, or restore a particular community. Conservation and management measures for rare communities should be determined on a case-by-case basis.
Guideline	VE15	Areas of non-native invasive plants within rare plant habitat should be identified and mapped during project-level analysis.
Guideline	VE16	Use Forest Service-approved portions of Conservation Strategies and Agreements, as appropriate, in the management of sensitive species habitat to help keep management actions from contributing to a trend toward listing for these species.
Terrestrial Ecosystems		
Guideline	VE17	Collect, interpret, and display information on terrestrial ecosystems to: a) Determine the kinds and intensities of inventories needed, b) Identify and classify rare communities to aid in conservation of threatened, endangered, and sensitive plants and animals, c) Add to the Terrestrial Ecological Unit Inventory (TEUI) of the Forest, d) Predict locations of rare plants or their habitats from the TEUI, and e) Predict effects to terrestrial ecosystems from various management options at the project level.
Guideline	VE18	Use the National Vegetation Classification system or other appropriate classification system, in the Forest TEUI. Assure that the TEUI is useful and meaningful to land managers at all levels.
Non-native Invasive Species (NNIS)		
Standard	VE21	On-Forest source sites for gravel and borrow materials shall be inspected for NNIS before materials are processed, used, or transported from the source site to the project area. Gravel or borrow material source sites with NNIS present shall not be used, unless effective treatment or other mitigation measures are implemented to prevent the spread of NNIS.
Standard	VE22	Projects that may contribute to the spread or establishment of noxious weeds shall be designed to include measures to reduce the potential for spread and establishment of noxious weed infestations.
Guideline	VE23	All seed used on National Forest System lands should be certified to be free of seeds from noxious weeds listed on the current *All States Noxious Weeds List*.
Guideline	VE24	NNIS management should determine the presence, location, and amount of infestations. Management strategies should also identify: a) Methods and frequency for treating infestations, b) Treatment procedures and restrictions, c) Reporting requirements, and d) Follow-up or monitoring requirements.
Guideline	VE25	Special use permits should include language where appropriate to reduce the risk of NNIS invasion and spread.
Integrated Pest Management		
Guideline	VE27	Where pest problems occur, the selection of corrective measures should take into account management objectives, effectiveness, safety, environmental protection, and cost.
Pesticide Management		
Standard	VE29	All permittee, licensee, and grantee pesticide-use proposals and plans shall be reviewed to ensure that pesticide use on NFS lands complies with FS requirements. Proposals and plans shall be approved by the appropriate line officer.
Standard	VE30	Allow utility companies to maintain their rights-of-way through NFS lands using pesticides and other integrated vegetation management treatments, based on an appropriate environmental analysis.

Management Direction for Vegetation		
Type	**Number**	**Direction Description**
Standard	VE31	Aerial application of pesticides is prohibited when rain or foggy weather is present or predicted within 4 hours of application. Avoid aerial application when wind velocities would cause excessive drift, or high temperature or low relative humidity would prevent adequate coverage. Adjust droplet size to attain adequate coverage and reduce the risk of drift.
Standard	VE32	Unless specifically registered for aquatic use, ground application of pesticides shall be conducted such that they do not enter surface waters, wetlands, or sink holes.
Standard	VE33	Where broadcast sprays are used on federal projects, an untreated zone of at least 100 feet must be left adjacent to private property, unless the private property owners waive this restriction in writing.
Standard	VE34	When a water carrier is used on pesticide projects and water is drawn from natural sources, the natural source must be protected from back siphoning.
Standard	VE35	All reasonable efforts shall be made to notify adjacent landowners and persons within the treatment area prior to application of restricted use pesticides.
Guideline	VE36	During environmental analysis for pesticide use, other reasonable alternatives should be evaluated to achieve the purpose and need of the project.
Guideline	VE37	Pesticide application within or adjacent to developed recreation areas should be limited to periods when the potential of pesticide exposure to Forest users is minimal.
Guideline	VE38	Use application techniques that provide proper pesticide placement on the target area or species. Low pressure spray equipment is preferred.
See also Soil and Water Goals SW02 and SW31, Fire Management Goal FM06, TEP Species Goals TE12 and TE29, Wildlife and Fish Goal 01, Scenery Goal SM01, Timber Goals TR01 and TR21, Range Goal RA11, Fire Management Objective FM10, TEP Species Objective TE30, Wildlife and Fish Objectives WF09, WF10, WF11; Timber Objective TR04, Soil and Water Standard SW03, TEP Species Standards TE14, TE23, TE24, TE25, TE30, TE31, TE32, TE33, TE35, TE36, TE37, TE42, TE43, TE58, TE59, TE64, TE67; Wildlife and Fish Standard WF13, Heritage Resources Standards HR05 and HR06, Range Standards RA04 and RA17, Minerals Standard MG15, Soil and Water Guidelines SW11, SW19, SW51; TEP Species Guidelines TE40, TE41, TE73, TE81; Wildlife and Fish Guideline WF16, Recreation Guideline RC15, Scenery Guideline SM06, Heritage Resources Guideline HR12, Range Guideline RA20, Lands and Special Uses Guideline LS32.		

Threatened, Endangered, and Proposed Species

Forest Service Manual and Handbook management direction for Threatened, Endangered, and Proposed (TEP) species is in FSM 2600 – Wildlife, Fish, and Sensitive Plant Habitat Management, and in FSH 2609.13 – Wildlife and Fisheries Program Management Handbook. See FSM and FSH direction for other appropriate resources in this section.

Management Direction for TEP Species		
Type	**Number**	**Direction Description**
General Direction		
Standard	TE06	When proposed exploration or development of privately owned mineral rights may adversely affect TEP species or habitat, the Forest shall work with state and federal mineral operation permitting agencies to reduce adverse effects.
Standard	TE07	Special use permits may be authorized in TEP species habitat if the uses do not adversely affect populations or habitat. This standard does not apply to Indiana bat or running buffalo clover. See special uses direction for these species, below.

Management Direction for TEP Species		
Type	**Number**	**Direction Description**
Cave Habitat and Species		
Standard	TE08	Cave entry during closed periods for scientific study and observation may be permitted by Forest Supervisor's written approval and permit from USFWS or delegated authority.
Standard	TE09	Gates or fences installed at cave entrances shall allow free entry and exit by TEP species and shall not restrict normal airflows.
Standard	TE10	Gate installation that disturbs a cave feature or floor must have an archaeological survey prior to disturbance.
Standard	TE11	Gates and fences shall be monitored and maintained. Base monitoring frequency on past cave visits, access, and potential for disturbance. Maintenance and repair of gates shall be undertaken within a reasonable time frame from vandalism discovery.
Additional Forest-wide direction to address the needs of specific TEP species is identified below.		
Virginia Big-Eared Bat		
Standard	TE13	Before taking actions on buildings that are within 6 miles of hibernacula, maternity colonies, or bachelor colonies, evaluate the buildings' potential to serve as roosting habitat and take action to avoid or minimize impacts as necessary. Actions (disposal, construction, reconstruction, etc.) are allowed during the hibernation period (November 16–March 31) without roosting habitat evaluation.
Standard	TE14	Within 200 feet of hibernacula, maternity colonies, or bachelor colonies, vegetation management shall only be conducted for: a) Bat habitat maintenance or improvement, b) Public safety, or c) Research.
Standard	TE15	New recreation facility construction is prohibited within 200 feet of hibernacula, maternity colonies, or bachelor colonies.
Standard	TE16	Prohibit public entry into caves and mines used as major hibernacula from September 1 to May 15. Minor hibernacula that harbor very few individuals in most years may remain open to the public if the Forest, USFWS, and WVDNR agree that public entry would be extremely unlikely to cause harm or mortality of Virginia big-eared bats.
Standard	TE17	Prohibit public entry into caves and mines used as maternity or bachelor colonies during the nursery season from April 1 to September 15.
Standard	TE18	Surface occupancy is not allowed for mineral operations on federal minerals that are within 200 feet of hibernacula, maternity colonies, or bachelor colonies.
Standard	TE19	Seismic exploration is prohibited within 200 feet of hibernacula, maternity colonies, or bachelor colonies unless it can be demonstrated that it would not have an adverse impact on bat populations or habitat.
Standard	TE20	Explosives shall not be used within 200 feet of hibernacula, maternity colonies, or bachelor colonies unless analysis can demonstrate that this activity will not have an adverse effect on bat populations or habitat**.** Explosives outside of this area shall not be used when such use has potential to damage the cave or disturb the bat.
Standard	TE21	New road or trail construction is prohibited within 200 feet of hibernacula, maternity colonies, or bachelor colonies.
Standard	TE22	If any new Virginia big-eared bat hibernacula, maternity colonies, or bachelor colonies are discovered on the Forest, the Forest shall develop appropriate protection measures in cooperation with USFWS and WVDNR. These measures could include closure orders, signs, fences, or gates.

Management Direction for TEP Species		
Type	**Number**	**Direction Description**
Indiana Bat The following terms and definitions (see Glossary) are critical to understanding direction for Indiana bats: 1. Primary Range 2. Hibernacula 3. Key Areas 4. Maternity site		
Standard	TE23	Retain all shagbark hickory trees 5 inches in diameter at breast height (dbh) or greater in harvest units except where public or worker safety concerns or research opportunities exist.
Standard	TE24	After post-harvest treatments, retain an average of at least 6 snags per acre that are 9 inches dbh or greater within harvest units, except where public or worker safety concerns exist. Create additional snags, if needed, from the available leave trees to make up any difference. Prioritize snag retention and creation from the largest to the smallest dbh.
Standard	TE25	Retain all known roost trees until such time as they no longer serve as roost trees (e.g. lose their exfoliating bark or cavities, fall down, decay, or are no longer used by bats).
Standard	TE26	Where evidence of maternity colonies (reproductively active females or juveniles prior to August 15) is discovered, the Forest shall establish a 2.5-mile radius buffer around the evidence site and search for actual maternity colonies within this management zone. The radius may be adjusted if warranted by new scientific information. The search shall continue for 3 field seasons or until a maternity site is confirmed, whichever occurs sooner. While the search is ongoing, proposed actions in the management zone shall be reviewed in cooperation with USFWS and WVDNR to determine any site-specific protection measures that may be needed. If and when a maternity colony is found, the management zone shall be adjusted as specified in TE27. If no other evidence of maternity activity is found for 3 field seasons, the management zone shall expire.
Standard	TE27	If a maternity site is discovered, establish a management zone centered on the site. The management zone shall not exceed a 2.5-mile radius unless site-specific factors or new scientific information indicate that a larger zone is needed. The zone may be smaller than a 2.5-mile radius if an evaluation of topography, known roost tree locations, proximity of permanent water, or other site specific habitat characteristics indicates that a smaller zone is likely to satisfy the habitat needs of the colony. Needed protection measures within the zone shall be determined at a site-specific level in cooperation with USFWS and WVDNR.
Standard	TE28	If any new Indiana bat hibernacula are discovered on the Forest, the Forest shall develop appropriate protection measures in cooperation with USFWS and WVDNR. These measures could include closure orders, signs, fences, or gates.
Indiana Bat Primary Range		
Standard	TE31	Management of vegetation 5 inches dbh or greater may only be implemented if activities: a) Maintain or improve Indiana bat or other TEP or Sensitive species' habitat, or b) Address public or worker safety concerns, or c) Achieve research objectives.
Standard	TE32	Retain harvest unit snags greater than 5 inches dbh except where public or worker safety concerns exist.
Standard	TE33	Leave at least 5 cull trees per acre, if available—preferably shagbark hickory, bitternut hickory, red oak, white oak, sugar maple, white ash, green ash, and/or sassafras. Prioritize cull retention from the largest to the smallest dbh.
Standard	TE34	New livestock grazing areas shall not cause maintained openings to exceed 5 percent of each primary range. Allotment Management Plans shall be modified, if needed, to ensure allotment management is compatible with Indiana bat habitat management.

Management Direction for TEP Species		
Type	**Number**	**Direction Description**
Standard	TE35	When designing and implementing regeneration harvest units, the following direction shall be used to help retain appropriate leave trees for Indiana bat habitat: a) Preferred residual trees for shelterwood and two-aged regeneration harvests should include the following species as available: shagbark hickory, bitternut hickory, red oak, white oak, sugar maple, white ash, green ash, and/or sassafras. Prioritize residual trees from the largest to the smallest dbh. b) Retain clumps of live trees and shrubs at a rate of 1/3 an acre per 5 to 8 acres of regeneration harvest area. Clumps should be co-located with other retained features.
Standard	TE36	Maintain a component of large over-mature trees, if available, in all uneven-aged harvest units to provide suitable roosting habitat.
Standard	TE37	Regeneration harvest shall not cause the early successional (0-19 years) age class of forest stands to exceed 10 percent of each primary range at any time.
Standard	TE38	Special use permits and federal mineral exploration and development may be allowed within the primary range if they are compatible with Indiana bat management.
Standard	TE39	Explosives may be allowed within the primary range if it can be demonstrated that this activity will not have an adverse effect on bat populations or habitat.
Guideline	TE40	Shelterwood and two-aged regeneration harvests are the preferred silvicultural methods. Alternate methods may be used to meet other vegetation or wildlife habitat objectives when compatible with Indiana bat habitat management. Thinning from below is the preferred management method for stands originating before 1905. Other appropriate or preferred measures to maintain or improve Indiana bat habitat within primary range may be developed under consultation with USFWS and WVDNR.
Guideline	TE41	Without preventing the regeneration of desired tree species, sufficient basal area should be retained in even-aged harvest units to meet the habitat needs of Indiana bats. Basal area determinations should be coordinated between the project silviculturist and wildlife biologist, based on site-specific vegetative conditions and habitat needs.
Indiana Bat Hibernacula, Key Areas, and Maternity Sites		
Standard	TE42	Management of vegetation that is less than 5 inches dbh generally may occur within 200 feet of the hibernacula, within key areas, or within 2.5 miles of known maternity sites during any time of the year, provided adverse disturbance to bats is avoided.
Standard	TE43	Management of vegetation 5 inches dbh or greater may only be implemented within 200 feet of hibernacula or within key areas to: a) Maintain or improve Indiana bat, TEP, or Regional Forester Sensitive Species habitat, b) Address public or worker safety concerns, or c) Achieve research objectives.
Standard	TE44	No new recreational facilities shall be constructed within 200 feet of hibernacula or within key areas.
Standard	TE45	Prohibit public entry into caves and mines used as major hibernacula from September 1 to May 15. Minor hibernacula that harbor very few individuals in most years may remain open to the public if the Forest, USFWS, and WVDNR agree that public entry would be extremely unlikely to cause harm or mortality to Indiana bats.
Standard	TE46	Construction or other permanent activities may only occur in key areas if they maintain or improve Indiana bat habitat or provide for public safety.
Standard	TE47	Do not issue permits for special uses occurring within 200 feet of hibernacula that would adversely affect Indiana bat populations or habitat.
Standard	TE48	Special use permits occurring within key areas and within 2.5 miles of maternity sites may be authorized if they are compatible with Indiana bat population maintenance or recovery.
Standard	TE49	Seismic exploration is not allowed within 200 feet of hibernacula, within key areas, or within 2.5 miles of maternity sites unless analysis can demonstrate it would not have an adverse impact on bat populations or habitat.

Management Direction for TEP Species		
Type	**Number**	**Direction Description**
Standard	TE50	Explosives shall not be used within 200 feet of hibernacula, within key areas, or within 2.5 miles of active maternity sites, unless analysis can demonstrate that this activity will not have an adverse effect on bat populations or habitat. Explosives outside of these areas shall not be used when such use has potential to damage the cave or disturb the bat.
Standard	TE51	New road or trail construction is prohibited within 200 feet of hibernacula.
Standard	TE52	Surface occupancy for proposed federal mineral operations is not allowed within 200 feet of hibernacula or within key areas.
Standard	TE53	Surface occupancy for proposed federal mineral operations within 2.5 miles of maternity sites shall be evaluated on a case-by-case basis. Any surface occupancy must be compatible with Indiana bat population maintenance or recovery.
Standard	TE54	Establish and maintain a key area of at least 150 acres, if available, within each primary range.
Guideline	TE55	A key area should be contiguous and located as close to the cave as possible. Where available, this area should include 20 acres of late successional forest, and an additional 130 acres of mid-to-late successional or late successional forest.
Guideline	TE56	New road or trail construction should avoid key areas and maternity sites.
Cheat Mountain Salamander		
Standard	TE58	Prior to proposed vegetation or ground disturbance in known or potential habitat, field surveys must be conducted and occupied habitat must be delineated.
Standard	TE59	Ground and vegetation-disturbing activities shall be avoided within occupied habitat and a 300-foot buffer zone around occupied habitat, unless analysis can show that the activities would not have an adverse effect on populations or habitat.
Bald Eagle		
Standard	TE60	Maintain 1,500-foot protection zones around nest sites that have been active within the last three nesting seasons. Activities within this zone must be compatible with bald eagle management. Compatibility determinations shall be made on a case-by-case basis.
Standard	TE61	Seasonal closure orders may be used to control human disturbance in the vicinity of nests.
Standard	TE62	A nest and the tree or structure where it is located shall not be removed or damaged as long as any usable portion of the nest remains, regardless of the time elapsed since the nest was last used, unless there is a concern for public health or safety.
West Virginia Northern Flying Squirrel (WVNFS)		
Standard	TE63	Suitable habitat shall be determined using maps collaboratively produced by the Forest, USFWS, and WVDNR. These maps shall be reviewed during watershed or project analysis and refined when Forest, USFWS, and WVDNR biologists determine that suitable habitat is or is not present. All verified capture sites shall be included in the suitable habitat maps.
Standard	TE64	Suitable habitat shall be considered occupied. Vegetation management activities in suitable habitat shall only be conducted after consultation with USFWS, and: a) Under an Endangered Species Act Section 10 research permit to determine the effects of an activity on WVNFS or to determine activities that would contribute to the recovery of the species, or b) To improve or maintain WVNFS or other TEP species habitat after research has demonstrated the beneficial effects of the proposed management, or c) When project-level assessment results in a no effect or may affect, not likely to adversely affect determination, or d) To address public safety concerns.
Standard	TE65	New developed recreation facilities, such as visitor centers or campgrounds, shall not be constructed in suitable habitat. Smaller facilities—such as foot trails, trailheads, picnic sites, ¼ acre vistas—may be constructed if they result in a no effect or may affect, not likely to adversely affect determination.

Management Direction for TEP Species		
Type	**Number**	**Direction Description**
Standard	TE66	Development of federal gas and oil is generally allowed as long as: (a) it remains within the limits projected in the 1991 Environmental Assessment Oil and Gas Leasing and Development and (b) protection measures for WVNFS are developed through consultation with the USFWS prior to Forest Service approval of operations.
Shale Barren Rock Cress		
Standard	TE67	Vegetation manipulation and ground-disturbing activities are prohibited within shale barrens unless no feasible alternatives exist. Exceptions may be allowed for research or information-gathering activities.
Running Buffalo Clover		
Standard	TE70	Special use permits occurring within occupied running buffalo clover habitat may be authorized only if they are compatible with population maintenance or recovery.
Standard	TE71	To the extent practicable, avoid implementing activities in areas that support running buffalo clover that have the potential to eliminate or have long-term detrimental effects to populations, such as placement of fill and gravel; paving; constructing new roads, well sites, or ditching for pipelines.
Standard	TE72	To the extent practicable, avoid conducting prescribed burns or constructing fuel breaks for prescribed burns through known running buffalo clover populations or habitat. If prescribed fire is used within running buffalo clover habitat, protect known populations by wetting or removing fuel from the immediate area.
Guideline	TE73	Where needed to help maintain or restore running buffalo populations, the Forest should implement habitat management measures such as creating selective canopy openings, initiating controlled levels of disturbance, controlling invasive species, or creating patches of potentially suitable habitat in adjacent areas. Measures should be coordinated with the USFWS and WVDNR prior to implementation, and include pre and post implementation site evaluations.
Guideline	TE74	Prior to changing access or use on roads or trails known to support running buffalo clover, estimates of potential frequency, timing, and severity of use should be made, and the Forest should develop appropriate protection measures in cooperation with USFWS and WVDNR.
Guideline	TE75	Surveys for running buffalo clover should be conducted June through no later than mid-August. Surveys should be conducted by personnel trained specifically to identify running buffalo clover.
Guideline	TE76	Prior to initiating project activities, running buffalo clover locations should be flagged so that managers, contractors, permittees, or cooperators are aware of running buffalo clover locations, unless it is determined on a case-by-case basis that marking populations would have more potential to cause negative effects.
Guideline	TE77	Prior to initiating project activities, managers, contractors, permittees, or cooperators should be informed about avoiding or limiting management activities in the immediate vicinity of running buffalo clover populations within the project area. Projects should be monitored to ensure that populations are not detrimentally affected over the long term.
Guideline	TE78	Maintenance mowing should be timed to benefit the species by reducing competition from other plants while avoiding periods of flowering and seed set.
Guideline	TE79	When addressing private landowner access issues, work cooperatively with the landowner and the USFWS to minimize impacts to running buffalo clover. Inform the landowner of the presence of endangered species and the recommended actions to avoid impacts. Where possible, add conditions to Special Use Permits or develop written management agreements with the landowner in order to protect the species. If necessary, implement mitigation measures such as creating patches of potentially suitable habitat in adjacent areas, relocating plants or seeds, and/or constructing alternative access routes that would avoid long-term detrimental impacts to RBC.
Guideline	TE80	Piling slash around running buffalo clover populations should be avoided.

Management Direction for TEP Species		
Type	**Number**	**Direction Description**
Guideline	TE81	Where possible, roads supporting running buffalo clover that are created or disturbed during timbering operations should be closed to additional traffic after the project is completed. Seeding/mulching plans should be coordinated to avoid the use of potentially invasive species, particularly non-native invasive species known to compete with running buffalo clover such as European white clover and red clover.
Guideline	TE82	If running buffalo clover populations are found within active grazing allotments, populations should be monitored to determine effects from grazing. If populations are being adversely affected by grazing activities, the allotment management plan should be adjusted appropriately to reduce or eliminate effects.
Guideline	TE83	Gating or restricting access to roads or trails should be implemented when monitoring of a running buffalo clover population shows signs of excessive disturbance from road or trail traffic.
See also Wildlife and Fish Goals WF01 and WF06, Vegetation Goals VE07 and VE08, Wildlife and Fish Objective WF09, Fire Management Standard FM12, Vegetation Standards VE12 and VE13, Wildlife and Fish Standard WF13, Minerals Standards MG09, MG34, MG48; Soil and Water Guideline SW51, Lands and Special Uses Guidelines LS04 and LS05.		

Wildlife and Fish

Forest Service Manual and Handbook management direction for wildlife resources is in FSM 2600 - Wildlife, Fish, and Sensitive Plant Habitat Management, and in FSH 2609.13 - Wildlife and Fisheries Program Management Handbook.

Management Direction for Wildlife and Fish		
Type	**Number**	**Direction Description**
Standard	WF13	For management actions that have been identified by the Forest Service as likely to cause a negative effect on RFSS or Birds of Conservation Concern populations, negative effects shall be avoided or minimized to the maximum extent practical while still accomplishing the purpose of the project or action. Unavoidable negative effects shall be mitigated to the extent practical and consistent with the project purpose.
Standard	WF14	For protection of cold water fisheries, apply the following to the channel buffers of perennial trout streams (stocked and native) during the period of October 1 to June 1: a) Potential sediment-producing ground disturbance exceeding two consecutive days shall only be initiated after consultation with a Forest fisheries biologist. b) Potential sediment-producing ground disturbance allowed during this period shall employ additional erosion control measures, seeding or mulching, applied concurrently with the activity.
Standard	WF15	When activities are proposed near a known active raptor nest, a wildlife biologist shall be consulted for measures to avoid or mitigate disturbance.
Guideline	WF16	When consistent with management prescription emphasis and direction, openings may be created and maintained in coordination with other resource projects to provide for vegetation diversity. Mechanical or chemical means, prescribed fire, or grazing may be used to help maintain openings. Native or desirable non-native, non-invasive trees and shrubs with high value for wildlife may be planted, released or pruned.
Guideline	WF17	Temporary, seasonal, or permanent closures may be implemented for areas and transportation routes to address concerns over human-caused disturbances during critical life stages such as nesting, denning, or spawning. Coordinate closures with WVDNR.

Management Direction for Wildlife and Fish		
Type	**Number**	**Direction Description**
Guideline	WF18	Use Forest Service-approved portions of Conservation Strategies and Agreements, as appropriate, in the management of RFSS habitat to help keep management actions from contributing to a trend toward listing for these species.
Guideline	WF19	Management actions should be designed and implemented so they do not fragment habitat for native and desired non-native fish species.
Guideline	WF20	Activities with the potential for causing adverse effects should be avoided or mitigated to the extent possible within ½ mile of active peregrine falcon nests. Seasonal closure orders may be used to control human disturbance in the vicinity of peregrine falcon nests.
Guideline	WF21	Passage for fish and other aquatic organisms should be provided at all new or reconstructed stream crossings of existing or potential fish-bearing streams. Exceptions may be allowed to prevent the upstream migration of undesired species.
Guideline	WF22	Habitat improvement structures should be designed to complement riparian areas and management prescription emphasis. Improvement structures should be constructed of native materials where available.
Guideline	WF23	Coordinate with WVDNR on their proposed introduction, reintroduction, stocking, or transplanting of native or desired non-native species.
Guideline	WF24	Habitat maintenance, enhancement, and restoration opportunities for migratory birds that are identified during watershed or project-level analysis should be implemented to the extent they are consistent with management prescription emphasis and project purposes, and to the extent practical and allowed by budget constraints.
See also all direction for TEP Species; plus Fire Management Goal FM06, Recreation Goal RC07, Range Goal RA01, Fire Management Objective FM09, Vegetation Objectives VE01, VE02, VE03, Soil and Water Standards SW38 and SW39, Vegetation Standards VE13 and VE22, Heritage Resources Standards HR05 and HR06, Timber Standard TR08, Range Standard RA19, Soil and Water Guidelines SW26, SW50, SW51; Heritage Resources Guideline HR12, Timber Guidelines TR11 and TR24, Range Guideline RA08, Lands and Special Uses Guidelines LS03, LS04, LS05, LS30, and LS32; Roads and Facilities Guidelines RF12 and RF23.		

Recreation Resources

Forest Service Manual and Handbook management direction for recreation resources is in FSM 2300 - Recreation, Wilderness, and Related Resource Management, FSM 2710 – Special Use Authorizations, and FSM 2720 - Special Uses Administration; and in FSH 2309.18 - Trails Management Handbook, and FSH 2709.11 - Special Uses Handbook.

Management Direction for Recreation Resources		
Type	**Number**	**Direction Description**
Trails		
Standard	RC28	Damage to or loss of system trails from timber harvest, road construction, mining, special uses, or prescribed fire activities shall be repaired or mitigated by the program initiating or proposing the activity.
Standard	RC29	If a trail is temporarily used as a road, relocate the trail for the duration of the project.
Guideline	RC31	Log skidding and road construction should not cross trail corridors except at designated crossing sites or unless the trail is already located on a road.
Guideline	RC32	Maintenance and/or relocation of existing trails should take priority over new trail construction. Trail maintenance priorities are as follows: a) Reduction of hazards to trail users. b) Prevention and mitigation of resource damage. c) Trail marking and signing. d) Treadway clearing work needed for user enjoyment.
Guideline	RC33	Visual variety and scenic attractions should be integrated in determining new trail development or existing trail relocation.
Guideline	RC34	The Forest may authorize construction and maintenance of special purpose trails, if use is compatible with Forest Plan direction, Management Prescription emphasis, and the suitability of terrain.
See also Vegetation Goal VE01, Wildlife and Fish Goal WF03, Scenery Goal SM01, Heritage Resource Goal HR02, Range Goal RA01, Roads and Facilities Goals RF01, RF02, RF15; Soil and Water Standards SW41 and SW42, Vegetation Standards VE13 and VE22, TEP Species Standards TE15, TE16, TE17, TE21, TE24, TE51, TE56, TE61, TE65; Heritage Resources Standards HR05 and HR06, Timber Standard TR08, Range Standard RA16, Minerals Standards MG09, MG19, MG29, MG28, MG29, MG30, MG31, MG37; Lands and Special Uses Standard LS07, LS14, LS22; Soil and Water Guidelines SW26, SW48, SW49, SW55; Vegetation Guideline VE37, TEP Species Guideline TE74, Wildlife and Fish Guidelines WF17 and WF20, Scenery Guidelines SM05 and SM08, Heritage Resources Guideline HR12, Timber Guideline TR12, Range Guideline RA08, Lands and Special Uses Guidelines LS03, LS05, LS23; Roads and Facilities Guidelines RF11, RF12, RF19, RF20, RF21, RF22, RF23, RF24, RF29, RF32.		

Wild and Scenic Rivers

Forest Service Handbook direction for managing eligible, suitable, and designated Wild and Scenic Rivers is in FSH 1909.12 - Land and Resource Management Planning, Chapter 8.2.

The following direction applies to eligible river segments. River corridors include the shorelines that generally extend a ¼ mile on either side of the eligible river segments. These segments are given a preliminary classification (Wild, Scenic, Recreational) based on varying levels of human activity. Rivers may be segmented into more than one classification.

Management Direction for Wild and Scenic Rivers		
Type	**Number**	**Direction Description**
Standard	WS03	When management actions are proposed that may compromise the outstandingly remarkable value, classification, or free-flowing character of an eligible Wild and Scenic River segment, a suitability study shall be completed for that eligible river segment prior to initiating the actions.
Guideline	WS04	The following Scenic Integrity Objectives should be assigned to the classifications of eligible Wild and Scenic River corridors: a) Very High to a Wild classification, b) High to a Scenic classification, c) Moderate or High to a Recreational classification.
See also Minerals Standard MG36, Lands and Special Uses Guideline LS05.		

Heritage Resources

Forest Service Manual management direction for the Heritage Program and cultural resources is in FSM 2360. Direction can also be found in the National Heritage Strategy.

Management Direction for Heritage Resources		
Type	**Number**	**Direction Description**
Standard	HR04	Unevaluated heritage resources must be treated as eligible historic properties until evaluated.
Standard	HR05	Projects shall be designed to avoid, minimize, or mitigate adverse effects to NRHP-eligible or unevaluated heritage resources. In-place protection of all identified eligible or unevaluated heritage resources is the minimum requirement. Heritage resources evaluated and determined not eligible for inclusion in the NRHP are afforded no such protection.
Standard	HR06	Conduct heritage resources surveys in the Area of Potential Effect of federal undertakings unless such areas have already been surveyed in a manner consistent with current professional standards. Surveys must be conducted under the guidance of a professional archeologist.
Standard	HR07	Review undertakings that may affect cultural resources to identify potential impacts. Compliance with Sections 106 and 110 of the National Historic Preservation Act of 1966, as amended, shall be completed before the responsible agency official signs the decision document.
Standard	HR08	Develop mitigation measures for each unevaluated, NRHP-eligible, or NRHP-listed heritage resource where direct and/or indirect management-related effects are probable.
Standard	HR09	Forest Service line officers shall stop ground-disturbing activities that impact or may impact known or newly-discovered heritage resources until the Forest Heritage Resources Program manager or qualified staff has made an on-site assessment of the resource and has completed appropriate cultural resources compliance. Heritage resources that have been evaluated and were determined not eligible for inclusion in the NRHP are afforded no such protection.
Guideline	HR10	Heritage resource artifact collections and records, and administrative history and archival data, should be curated in accordance with federal standards, and through consultation with SHPO and other interested parties.
Guideline	HR11	The eligibility of resources may be re-examined and changed if additional evidence or information about them becomes available.
Guideline	HR12	Confer with other resource specialists in the earliest planning stages of projects involving ground disturbance, diminished jurisdiction, increased public use of, or increased access to, a heritage resource.
Guideline	HR13	Criteria for interpretive suitability of sites, structures, and features of the built environment may include, but not be limited to: accessibility; property condition; protection considerations; compatibility with other resource activities or management prescriptions; and public interest or values.
Guideline	HR14	A management plan should be developed for each historic property nominated to the NRHP. The plan should be drafted during the nomination process.
Guideline	HR15	Historic structures and features of the built environment may be removed if they are not identified for possible administrative use or interpretive theme, or if they pose a risk to health or safety. The level of documentation for such structures and features to be removed may vary with the condition, significance, and recommendations of the SHPO and the Advisory Council on Historic Preservation.
See also Fire Management Standard FM12, TEP Species Standard TE10, Minerals Standard MG18, Lands and Special Uses Standard LS24, Lands and Special Uses Guideline LS05.		

Timber Resources

Forest Service Manual and Handbook direction for timber management is in the FSM 2400 - Timber Management, and in Forest Service Handbooks: 2409.13 - Timber Resource Planning Handbook, 2409.13a - Timber Permanent Plot Handbook, 2409.15 - Timber Sale Administration Handbook, 2409.17 - Silvicultural Practices Handbook, 2509.18 - Soil Management Handbook, 2609.13 - Wildlife and Fisheries Program Management Handbook, and 2509.22 – Soil and Water Conservation Practices Handbook. Sale implementation direction can also be found in Timber Sale Contract Provisions and procurement contracts.

DESIRED CONDITIONS

Management Direction for Timber Resources		
Type	**Number**	**Direction Description**
Timber Resource Management Planning		
Standard	TR05	Whole-tree yarding shall be prohibited where site-specific soil inventories determine the need for on-site nutrient retention. Whole-tree yarding may be allowed elsewhere based on site-specific management objectives.
Standard	TR06	No more than 20 percent of NFS lands within each prescription area unit shall receive regeneration harvest over a 10-year period.
Guideline	TR07	Stands less than 10 acres in size should only be created to meet resource objectives other than timber production. Existing stands less than 10 acres should be maintained in the corporate database until such time that it is feasible to incorporate them with one or more adjoining stands.
Commercial Timber Sales		
Standard	TR08	Activity fuels (slash) shall be removed from permanent roads and recreation trails as part of normal harvest operations. Slash may be retained in wildlife openings if it is arranged into brush piles that would provide beneficial habitat structure without impeding wildlife movement and maintenance of openings. Slash may be retained in streams when considered beneficial for aquatic resources.
Guideline	TR09	Skid trails should normally be a minimum of 200 feet apart, but may be closer to adjust to ground conditions. System roads should not be used for skidding.
Guideline	TR10	System roads should not be used as log landings unless they are determined to be environmentally preferable and do not result in irreversible road damage. Within one growing season after completion of harvest activities, wildlife openings that are used as log landings should be rehabilitated using vegetation beneficial to wildlife.
Guideline	TR11	Log landings, equipment storage areas, portable sawmill sites, and other concentrated activities should be located outside of channel buffers.
Guideline	TR12	In and around developed recreation sites, activity fuel should be removed by chipping, burning, or other means, including opportunities for fuelwood gathering.
Guideline	TR13	Minimize bole damage by reducing the number of skid trails and using “bumper trees”.
Other Than Commercial Sales		
Standard	TR15	Trees must be both dead and down for personal use firewood, except where determined by the Forest to be a risk to public safety or in designated areas covered by the guideline below. Cutters must have personal use firewood permits.
Guideline	TR16	The Forest may make green firewood available to the public in designated areas. These areas should contribute to the accomplishment of resource management objectives.

Management Direction for Timber Resources		
Type	**Number**	**Direction Description**
Guideline	TR17	Closed roads may be opened temporarily for firewood collecting, depending on management prescription direction and potential impacts to other resources.
Silvicultural Systems		
Standard	TR18	Regeneration harvest units shall be separated by manageable stands of trees. This spacing requirement applies to regeneration units until regenerated trees have reached 20 percent of the height of the surrounding vegetation.
Guideline	TR19	Both even- and uneven-aged silviculture systems may be used to help meet management objectives. Base the choice of system and applicable harvest methods on the management prescription, the vegetation present, and/or the needs of other resources.
Guideline	TR20	Harvest openings in the immediate foreground, foreground or midground of visually sensitive areas should be irregular, natural-appearing shapes and sizes to blend in with the landscape.
Reforestation and Timber Stand Improvement (TSI)		
Standard	TR22	An area shall be considered reforested when it meets the stocking and species requirements specified in the detailed silvicultural prescription for the site-specific area.
Guideline	TR23	Sites should only be converted from one forest type to another (e.g. mixed hardwoods to red spruce or oak-hickory) as part of ecosystem restoration efforts.
Guideline	TR24	Consider the needs of other appropriate resources when prescribing TSI activities.
Guideline	TR25	Silvicultural operations should be identified during project planning in the detailed silvicultural prescriptions and scheduled in priority based on expected benefits and the objectives of the Management Prescription area.
Guideline	TR26	Reforestation prescriptions should include the consideration of genetically improved planting stock as an alternative practice.
See also Soil and Water Goal SW01, TEP Species Goal TE29, Scenery Goal SM01, Vegetation Objective VE02, Soil and Water Standards SW07, SW09, SW23, SW34, SW35, SW37, SW40; Vegetation Standards VE13 and VE22, TEP Species Standards TE23, TE24, TE30, TE31, TE32, TE33, TE35, TE36, TE37, TE58, TE59, TE67; Recreation Standards RC28 and RC29, Heritage Resource Standards HR05, HR06, HR09; Minerals Standard MG14, Fire Management M17, Vegetation Guideline VE04, Soil and Water Guidelines SW51 and SW52, TEP Species Guidelines TE40, TE76, TE77, TE80, TE81; Recreation Guidelines RC17 and RC31, Heritage Resources Guideline HR12, Minerals Guideline MG25, Lands and Special Uses Guideline LS10, Roads and Facilities Guidelines RF14 and RF15.		

MANAGEMENT PRESCRIPTION STANDARDS AND GUIDELINES

Management Prescription 6.1 - Wildlife Habitat Emphasis

Management Direction for 6.1 – Wildlife Habitat Emphasis		
Type	**Number**	**Direction Description**
1900 - Vegetation		
Standard	6107	Maintain culls and snags to provide for wildlife habitat. Manage culls to provide dens and future snags. If non-commercial and in excess of wildlife needs, culls may be girdled to produce snags. When thinning or implementing other vegetation management, retain at least 5 culls per acre, if available. Retain culls and all snags except as noted below. a) Snags and culls may be removed when they are public safety hazards along roads, trails, or established campsites, or safety hazards in harvest units. b) Snags and culls may be removed for scenery management purposes in locations of very high or high scenic integrity such as in a vista or in the immediate foreground of a road

Management Direction for 6.1 – Wildlife Habitat Emphasis		
Type	**Number**	**Direction Description**
		open for public motor vehicle travel. c) See also snag and cull direction in TEP Species section for those areas that intersect with Indiana bat habitat.
Guideline	6108	Grapevines should not be controlled unless necessary to achieve wildlife habitat objectives. Grapevine control needs should be evaluated at the project level.
Guideline	6109	Camphor vines should be controlled when needed to ensure adequate stocking of desirable species.
Guideline	6110	Oak species should be restored, maintained, or enhanced in stands where existing natural vegetation includes an oak component and or there is some oak present in the overstory or understory within or adjacent to the stand. Final overstory removal should not normally be conducted in stands without adequate advance reproduction of oak or sprouting potential.
2350 – Recreation: General Forest Areas		
Guideline	6120	In areas where oak restoration is emphasized, work with WVDNR to facilitate hunter access during deer season.
2430 - Other Than Commercial Sales		
Standard	6125	Firewood: a) Personal use or marked firewood sales may be cut anytime during the year along Forest roads open to the public. b) Firewood cutting may be permitted following the closure of the timber sale unit. In these areas, cutting may only occur during the period August 2 to October 31 and January 1 to April 14. Sale area roads shall be posted as needed to help avoid conflicts with hunters and other recreationists. c) Along roads that are normally closed, green firewood sales may be made available during the period January 1 to April 14 and August 2 to October 31. Sale area roads shall be posted as needed to help avoid conflicts with hunters and other recreationists. d) Firewood permittees or assistants are not allowed to hunt when given access to gather firewood behind closed gates.
Guideline	6126	Firewood sales should be managed so that disturbance is minimized during critical habitat periods such as turkey brood season.
2470 - Timber Stand Improvement and Reforestation		
Guideline	6133	Non-merchantable stems greater than 1” dbh should be cut in regeneration areas. Exceptions may include: a) Leave clump trees, b) Marked cull trees and snags, c) Trees capable of producing an adequate growth response after release, d) Shrubs beneficial to wildlife, or e) Areas where site preparation is not necessary to achieve desired regeneration.
Guideline	6134	TSI and reforestation activities should retain trees and shrubs beneficial to wildlife (e.g., dogwood, crabapple, hawthorn, witch hazel, American hazel nut, American hornbeam, and serviceberry), if available on site.
2630 – Wildlife Habitat		
Guideline	6138	Developed openings should be located away from open roads or main collector roads, and from active hiking and mountain biking trails. They should be accessible for maintenance and where feasible, dispersed within the prescription area.
Guideline	6139	Conifer trees may be planted or controlled where needed to maintain or enhance vegetation diversity for wildlife. Habitat management should not seek to convert conifer stands to hardwoods or eliminate the conifer component of mixed stands.
Guideline	6140	Between periods of use, local roads closed to public vehicle use should be seeded to wildlife food plants and managed as wildlife openings and hiking travel ways.
7100 - Transportation System Planning		

Management Direction for 6.1 – Wildlife Habitat Emphasis		
Type	**Number**	**Direction Description**
Guideline	6147	Road densities and impacts should be minimized to reduce disturbance in the area. a) New road construction should not cause road density within the prescription area unit to exceed 1.0 mile per square mile for collector roads, or 2.5 miles per square mile for any combination of collector and local roads. b) New collector roads should generally be gated and maintained for recurring administrative use. c) New local roads should generally be closed between projects by physical barricades. Use should be intermittent. Public motorized use should generally not occur from April 15 to August 1 to reduce disturbance to wildlife. See also Guideline 6119 and Standard 6125.

Management Prescription 6.2 – Backcountry Recreation

Management Direction for 6.2 – Backcountry Recreation		
Type	**Number**	**Direction Description**
1590 – Search and Rescue		
Standard	6201	Motorized and mechanized equipment may be used for search and rescue operations.
1900 – Vegetation		
Standard	6202	No programmed commercial timber harvest shall occur. However, vegetation may be treated for the following reasons: a) To enhance dispersed recreation opportunities or settings b) To maintain or enhance public safety consistent with the degree of risk posed by SPNM areas c) To help control insect or disease outbreaks d) To salvage or restore areas extensively damaged by natural phenomena such as insects, disease, wind or ice/snow storms, and fire e) To meet the emphasis of the management area.
Standard	6203	No timber stand improvement is allowed.
Standard	6204	Vegetation management is allowed to rehabilitate and maintain trails or recreation use sites. Chainsaws and brush-clearing power tools are allowed. Revegetation activities must use native vegetation.
Standard	6205	Planting native species for the enhancement of visual quality or recreational settings is allowed.
Guideline	6206	Vegetation management may occur as a component of actions needed to protect adjacent lands from fire, non-native invasive species, pest, or pathogen damage.
Guideline	6207	Openings should constitute a minor component of the landscape, but may be maintained or developed to enhance visual and recreational settings.
2310 – Recreation System Planning		
Standard	6211	Recreation planning shall be consistent with the Recreation Opportunity Spectrum (ROS) settings and opportunities for semi-primitive non-motorized (SPNM).
2350 – Recreation: General Forest Areas		
Guideline	6213	Recreation facilities should be relatively uncommon, and they should be designed to blend in with the natural environment.
Guideline	6214	Trail densities should not exceed 4 miles per square mile to help maintain semi-primitive opportunities. Mechanized trail construction equipment may be used.
Guideline	6215	Trails should be constructed to Trail Class I, II or III standards. Trail bridges may be used

Management Direction for 6.2 – Backcountry Recreation		
Type	**Number**	**Direction Description**
		to protect resources and to provide for visitor safety consistent with the degree of risk posed by these areas. Bridge construction and design should be consistent with the SPNM setting.
Guideline	6216	Trails should be maintained to Trail Class I, II or III standards. Power and mechanical tools may be used for trail maintenance.
Guideline	6217	Appropriate uses for SPNM opportunities and settings may include, but are not limited to: hiking, backpacking, camping, nature study, bicycling, mountain climbing, horseback riding, fishing, hunting, and cross-country skiing.
2360 - Special Interest Areas		
Guideline	6218	Interpretation of remote cultural and natural resources may be allowed and should be consistent with SPNM recreation emphasis.
2380 – Scenery Management		
Standard	6219	SPNM recreation areas shall be managed consistent with the Scenery Management System Integrity Objective of High. Deviations to the Moderate Scenic Integrity Objective are allowed to maintain recreation values, provide for public safety, or to restore ecological communities or natural habitat structure.
2500 – Water and Soil		
Guideline	6220	Watershed improvement or restoration may occur to reduce soil erosion and/or to improve surface and ground water quality. Watershed improvement projects should be designed to blend in with the natural environment and the SPNM setting.
2600 – Wildlife Management		
Standard	6222	New wildlife habitat improvements are only allowed if they: a) Are compatible with the SPNM recreation setting, b) Can be built and maintained without additional system roads, and c) Use native vegetation as prescribed in FW Guideline VE05.
Guideline	6223	Maintenance of existing wildlife habitat improvements may continue.
2630 - Fish Habitat		
Standard	6224	Fish management practices—such as fish stocking, stream liming, and stream habitat improvement or protection—are subject to the following constraints designed to help practices meet the desired SPNM setting of the area. a) Trucks and other heavy equipment are allowed only in areas accessible by existing roads that are designed to accommodate this type of vehicle traffic. b) Stream structures shall be constructed from logs and rocks to blend in with the natural setting. c) Log structures shall generally be small, usually not more than 2 or 3 logs high.
Standard	6225	Structure materials shall be from an on-site or a natural-appearing source. Concrete and gabions are not allowed. Quarried rock may be allowed on a case-by-case basis.
Standard	6226	Addition of limestone fines to improve water quality and fish habitat shall only be allowed where existing roads provide access, or through delivery by other feasible means consistent with SPNM setting.
Guideline	6227	Streamside shade planting may be allowed to maintain or enhance stream temperature or to provide habitat cover.
2700 – Special Uses		
Standard	6228	Discretionary special uses shall generally not be permitted unless they are compatible with the emphasis of the area.
Guideline	6229	Non-recreation special use permits should not detract from the area's desired ROS setting.
Guideline	6230	Recreation special use permits, including outfitter guide operations, should provide SPNM opportunities or at least be consistent with the desired ROS setting.
5100 – Fire		

Management Direction for 6.2 – Backcountry Recreation		
Type	**Number**	**Direction Description**
Standard	6233	Wildfires shall typically be suppressed.
Guideline	6234	Motorized and mechanized equipment and vehicles may be used for suppression activities, although hand tools and low impact techniques are preferred.
Guideline	6235	Prescribed fire may be used to help restore or maintain fire-dependent ecosystems, wildlife openings, or range allotments.
7100 - Transportation System Planning		
Standard	6237	No new roads shall be constructed except to respond to statute, or to provide access for outstanding or reserved rights, or existing permits, leases, or contracts.
Standard	6238	Roads that are constructed for exceptions listed in Standard 6237 shall be built to the minimum standard needed to protect resources and provide for user safety, and shall be decommissioned and rehabilitated at the end of operations or need.
Standard	6239	Existing roads shall be closed to public motorized use. Infrequent administrative use and use by contractors and cooperators is allowed to the extent needed to accomplish management objectives. Motorized use by permittees and lessees is allowed to the extent needed to accomplish the purpose of the permit or lease.
Guideline	6240	Existing authorized roads may be maintained or reconstructed to provide for necessary administrative and authorized access.