

Appendix F

PRESCRIPTION AREAS

Introduction

A Prescription Area is an allocation of one or more parcels of land within which resource conditions and corresponding management emphasis are similar. Some Prescription Areas describe previous designations; others address current issues and new management emphases.

An alphanumeric system is used to help identify the Prescription Areas. Sequential gaps that occur within the system represent Prescription Areas that were proposed only within Plan Alternatives and not incorporated into this document.

Prescription Area descriptions include:

- Setting (including physical description)
- Desired Future Condition
 - Emphasis of Condition
 - Desired Ecosystem Condition
 - Desired Facilities and Human Activities
- Goals and Objectives
- Standards

Regardless of Prescription Area, Forestwide Goals and Objectives apply, and adherence to Forestwide Standards is mandatory *unless* a prescription-specific Goal, Objective, or Standard supersedes Forestwide Direction. In some cases, Prescription Areas overlap. If Goals and Objectives conflict, a determination of appropriate Desired Future Condition will be made site-specifically. However, the most restrictive Standards must be followed.

The suitability for timber production of each Prescription Area is identified under the “Setting” heading of each Prescription Area. The four classifications used are:

- Unsuitable for Timber Production – Timber harvest not allowed
- Unsuitable for Timber Production – Tree cutting, tree removal, or timber harvest may occur on an unscheduled basis to attain Desired Future Conditions
- Suitable for Timber Production (Scheduled Harvest) – Non-timber emphasis
- Suitable for Timber Production (Scheduled Harvest) – Timber emphasis

Prescription Area Descriptions

1.A. ROCK CREEK RESEARCH NATURAL AREA; TIGHT HOLLOW, AND RIGHT FORK OF ELISHA CREEK PROPOSED RESEARCH NATURAL AREAS

Setting

This Prescription Area contains 189 acres within the Upper Cumberland River Management Area. Rock Creek Research Natural Area (RNA) is a more or less, cliff-bound valley located on the Rock Creek tributary of the Rockcastle River in southwestern Laurel County. It is located on the London Ranger District. The addition of 469 acres is proposed with the Middle and Upper Kentucky River Management Areas. Tight Hollow is a cliff bound valley located on the Tight Hollow Creek tributary of Mill Creek in southeastern Wolfe County. It is located on the Stanton Ranger District. Right Fork of Elisha Creek is located in the headwaters of the Right Fork of Elisha Creek, a tributary of the Redbird River in west central Leslie County. It is located on the Redbird Ranger District. See the map of Research Natural Areas in Appendix G for an approximate location.

This Prescription Area is classified as Unsuitable for Timber Production – Timber harvest not allowed.

Desired Future Condition

Emphasis of Condition: A Research Natural Area (RNA) is an “ecological area designated in perpetuity for research and education and/or to maintain biological diversity on National Forest System lands. Research natural areas are “for non-manipulative research, observation, and study.” The Vegetation Management and Protection Research Work Unit of the Southern Forest Experiment Station manages designated areas to maintain biological diversity, conduct non-manipulative research and monitoring, and foster education. Proposed RNAs will be managed by the DBNF until they receive designation.

Desired Ecosystem Condition: Rock Creek RNA, established in 1939, is characterized by late-successional or old-growth hemlock and mixed mesophytic forest, with dense rhododendrons along streambanks, large trees, and few forest openings. Rock Creek RNA was also registered as a National Natural Landmark in 1974. Rock Creek RNA has an individual management plan giving specific direction for its Desired Future Condition.

Tight Hollow and Right Fork of Elisha Creek proposed RNAs are currently characterized by mid- to late-successional xeric to mesic forests comprised of upland oak and yellow pine, hemlock and mixed mesophytic forest types. Stands of old-growth are found in these areas. Natural tree gap openings are also present.

All three areas will be moving toward old-growth conditions because of the lack of vegetation management such as tree cutting. Since fire is seldom present in the Rock Creek RNA, upland species such as shortleaf and pitch pines as well as scarlet and chestnut oaks gradually succeed to shade-tolerant species across the majority of the landscape. Snags, natural openings, and large

woody fuels are common. Depending on the research plan, fire may be present in some portions of the proposed Research Natural Areas.

Facilities and Human Activities: Roads, trails, or other facilities are not normally found in these areas. Hunting and cross-country hiking may occasionally occur but recreation is not encouraged.

No designated trails occur in the Rock Creek Research Natural Area. Research, when approved by the Southern Research Station, will be non-manipulative. Other activities may include installation of markers for re-measurement of vegetation growth, or other non-destructive sampling. Invasive non-native plants may be controlled. Prescribed fire is not allowed in the Rock Creek RNA and the area is protected from wildland fire.

Designated trails occur in Tight Hollow and Right Fork of Elisha Creek if approved as RNAs only if permitted by the respective management plans. Research, when approved by the Southern Research Station, generally will be non-manipulative. Other activities may include installation of markers for re-measurement of vegetation growth, or other non-destructive sampling. Invasive non-native plants may be controlled. Prescribed fire *may* be allowed in the Tight Hollow and Elisha Creek areas if selected as RNA, based on the respective management plans. The areas are protected from wildland fire.

Goals and Objectives

1.A-Goal 1. Follow direction of and cooperate with the Southern Forest Experiment Station in management of these areas.

1.A-Objective 1.A. Management objectives for these areas will be determined by the Southern Forest Experiment Station. The management of Tight Hollow and Right Fork of Elisha Creek proposed Research Natural Areas would be the responsibility of the DBNF until they are designated by the Forest Service Chief to be Research Natural Areas. These two areas are to be managed to retain the values that qualify them to be nominated as Research Natural Areas.

1.A-Objective 1.B. The Recreation Opportunity Spectrum objective is Semi-primitive Non-motorized.

1.A-Objective 1.C. Reroute existing trails outside of the Research Natural Area, unless approved by the management plan.

Standards

LANDS

1.A-LAND-1. If Tight Hollow or Right Fork of Elisha Creek is designated as Research Natural Areas, they will remain in this prescription and be managed accordingly.

1.A-LAND-2. If the Tight Hollow Proposed Research Natural Area is not designated, its land base will be allocated into Prescription Area 3.E., Red River Gorge Geologic Area and National Natural Landmark.

1.A-LAND-3. If the Right Fork of Elisha Creek Proposed Research Natural Area is not designated a special area, its stands will be inventoried and allocated into Prescription Area 1.I., Designated Old-Growth.

MINERALS

1.A-MIN-1. The surface is not to be disturbed during any federal mineral exploration or development activity; development of federally owned oil and gas is subject to the no surface occupancy stipulation.

1.A-MIN-2. No extraction permits will be issued for common variety minerals, e.g., sand and gravel.

WILDLIFE

1.A-WLF-1. Wildlife improvements must conform to the Research Natural Area management plan.

VEGETATION

1.A-VEG-1. Collection of non-timber forest products is not allowed, except for scientific purposes

1.A-VEG-2. Silvicultural activities must conform to the Research Natural Area management plan.

PRESCRIBED FIRE

1.A-FIRE-1. Prescribed fire control lines must be designed and maintained as directed by the Research Natural Area management plan.

1.C. CLIFFLINE COMMUNITY

Setting

A cliffline community is the area between 100-foot slope-distance from the top and 200-foot slope-distance from the dripline of a cliffline. A cliffline is a naturally occurring, exposed, and nearly vertical rock structure at least 10 feet tall and 100 feet long. A cliffline is continuous if segments are separated by no more than 300 feet. Wherever the described conditions are found, those sites will be included in this Prescription Area.

This Prescription Area, found in all Management Areas, is currently estimated at approximately 111,200 acres across the DBNF.

This Prescription Area is classified as Unsuitable for Timber Production – Tree cutting, tree removal, or timber harvest may occur on an unscheduled basis to attain Desired Future Conditions.

Desired Future Condition

Emphasis of Condition: This area is managed to protect, maintain, or enhance habitat conditions for cliffline associated PETS and Conservation species. Sandstone and/or limestone rock form most of the clifflines on the DBNF.

Microclimate conditions, primarily the temperature and humidity associated with this landscape feature, persist. Overstory trees within this Prescription Area are generally old and usually replaced by natural processes. The forest community within this area varies a great deal because clifflines may occur anywhere on the forest ranging from low elevation streamside areas and higher elevation ridgetops.

Desired Ecosystem Condition: This area is managed to maintain its unique ecosystem and to support habitat for viable populations of the flora and fauna that are cliffline associated. Clifflines also function as travelways for many forest species and serve to maintain connectivity between other habitat areas. This ecosystem contains diverse transition zones, from dry to xeric above the cliff, to mesic or riparian communities below. Old trees are often found both above and below clifflines. Depending on the specific location these trees may be fairly widely scattered or heavily stocked. Prescribed fire is allowed in this area and trees may show occasional scorch marks. Non-native, invasive species do not occur within the Cliffline Community Prescription Area.

Dry to xeric forest communities above clifflines are dominated by yellow pine and oak forest types on sandstone cliffs, and a mixture of oaks, other hardwoods and redcedar on limestone cliffs. Below sandstone cliffs, in sheltered areas, such as east or north facing slopes, large hemlock and yellow-poplar trees may dominate the overstory vegetation. More exposed areas facing south and west below sandstone cliffs may be dominated by mixed oak and other hardwoods or by mixed oak and yellow pines. Below limestone cliffs, oaks tend to dominate the forest, however, in more sheltered areas, large sugar maples, yellow-poplars, hemlocks and yellow buckeyes may dominate.

Clifflines often have seasonal, or ephemeral, wet driplines containing both flora and fauna that require such environments. Cave openings and rockshelters are common in this area. Many species of bats and other small animals inhabit dark areas and caves at various points along these cliffs. In

the Red River Gorge Geological Area, white-haired goldenrod may be found in rockshelters along the base of clifflines.

Desired Facilities and Human Activities: Where PETS species, habitat for Conservation species, and heritage resources are adequately protected, an occasional trail or stairway may allow access across clifflines. The rich heritage resources occurring here are evaluated and protected, but institutional research is authorized only by written agreement. Dispersed recreation (e.g., hiking, rock climbing, rappelling, bouldering, and camping) is generally allowed, unless adverse impacts to PETS species, habitat for Conservation species, or heritage resources listed or potentially eligible for listing on the National Register of Historic Places, cannot be mitigated.

Goals and Objectives

1.C-Goal 1. Maintain the physical and microclimate conditions so that habitat for species within this uniquely important ecosystem persists on the Forest over the planning period. Manage clifflines to maintain their ecosystems, thereby protecting habitat for flora and fauna species that require these ecosystems.

1.C-Objective 1.A. Develop a comprehensive, Forestwide plan for managing cliffline-related recreational activities.

1.C-Goal 2. Bring about the delisting of white-haired goldenrod.

1.C-Objective 2.A. Complete recovery plan recommendations relating to white-haired goldenrod sites.

1.C-Objective 2.B. Participate in the delisting procedure for white-haired goldenrod.

1.C-Goal 3. Manage clifflines, including rockshelters, to protect and allow study of the rich archaeological deposits frequently found in this area. Respect Native American values and protect traditional heritage properties whenever possible.

1.C-Objective 3.A. Initiate a site-stabilization program for known archaeological sites, in consultation with the State Historic Preservation Officer and interested federally recognized tribes.

1.C-Objective 3.B. Initiate a data recovery plan for significant archaeological sites that cannot be adequately protected.

Standards

MINERALS

1.C-MIN-1. In the area above the cliffline, the surface is not to be disturbed during any federal mineral exploration or development activity; development of federally owned oil and gas is subject to the no surface occupancy stipulation. In the area below the cliffline, surface occupancy is authorized only when these activities will not negatively impact PETS species, habitat for Conservation species, or heritage resources listed or potentially eligible for listing on the National Register of Historic Places; in addition, development of federally owned oil and gas is subject to the controlled surface use stipulation.

ROADS/ENGINEERING

1.C-ENG-1. Subject to valid existing rights, new roads or rights-of-way will not be permitted in the cliffline zone, if they are likely to negatively impact PETS species, habitat for Conservation species, or heritage resources listed or potentially eligible for listing on the National Register of Historic Places.

RECREATION

1.C-REC-1. New recreation facilities will not be permitted in the cliffline zone if they are determined to negatively impact heritage resources listed or potentially eligible for listing on the National Register of Historic Places.

1.C-REC-2. Any new areas developed for cliffline related recreation activities, e.g. rock climbing, bouldering, or rappelling, must receive Forest Service authorization prior to development. Improvements to existing developments that may substantially increase use of a cliffline related area must also receive prior authorization from the Forest Service. Activities that constitute development include, but are not limited to:

- a) Permanent installation of safety devices such as bolts, straps, cam devices, or chocks
- b) Construction of access trails
- c) Clearing of vegetation

1.C-REC-3. Camping is not permitted within 100 feet of the base of any cliff or the back of any rockshelter, unless at a designated site.

1.C-REC-4. No campfire or stove fire is permitted within 100 feet of the base of a cliff, or the back of any rockshelter, unless at a designated site.

1.C-REC-5. Areas will be managed to meet or exceed the Recreation Opportunity Spectrum experiences defined as semi-primitive non-motorized, semi-primitive motorized, and roaded natural.

WILDLIFE

- 1.C-WLF-1.** Permit site-specific vegetative manipulation only when its purpose and need is to improve or sustain habitat for PETS species or habitat for Conservation species.
- 1.C-WLF-2.** Management activities will not concentrate public use in the vicinity of clifflines, if such is detrimental to PETS species or habitat for Conservation species.
- 1.C-WLF-3.** Protect peregrine falcon aerie (nesting) sites from human disturbance between February 1 and June 30. Determine size of these protection areas, based on terrain and activities known to occur near the nest site, in consultation with the Kentucky Department of Fish and Wildlife Resources.

VEGETATION MANAGEMENT

- 1.C-VEG-1.** Allow harvest of wood products only as an output in pursuing other resource objectives.
- 1.C-VEG-2.** When timber is harvested, heavy equipment such as skidders or yarders are not to be allowed in this area. Cable logging corridors may cross this area when cable operations are necessary for the management of the cliffline or adjacent Prescription Areas, only when no other reasonable access is available. Logs may be end-lined or cabled from or through this area.
- 1.C-VEG-3.** Collection of non-timber forest products within 50 feet of a cliffline is subject to the following restrictions:
- a) Personal use moss collection is prohibited.
 - b) Collection of other species within this zone is limited to those species that cannot be feasibly collected elsewhere (e.g., no collection of mountain laurel is allowed within cliffline areas because it can be collected on other upland or midslope sites.)
 - c) For ground disturbing activities (transplants, root digging, etc.) a maximum of 10 plants will be allowed per permit, with no more than two permits sold to an individual per year.
 - d) Non-destructive activities (seed collection, cuttings, etc.) are allowed for all species unless otherwise prohibited.

1.E. RIPARIAN CORRIDOR

Setting

The Riparian Corridor Prescription Area encompasses riparian areas, as well as adjacent associated upland components. A riparian area is functionally defined as a three-dimensional ecotone of interaction that includes both terrestrial and aquatic ecosystems. It is identified on the ground as one of the following: a perennial stream or other perennial water body (with the exception of artificial upland ponds and the Large Reservoirs Prescription Area), or intermittent stream, as well as the associated soils, vegetation and hydrology. It extends down into the ground water, up above the canopy, outward across the flood plain, up the near-slopes that drain into the water, laterally into the terrestrial ecosystem, and along the watercourse at a variable width (Ilhardt et al. 2000). Wetlands, springs and seeps may also be covered under the 1.G. Rare Community Prescription Area. See Figure 3 - 1 for a graphical representation of a Riparian Corridor.

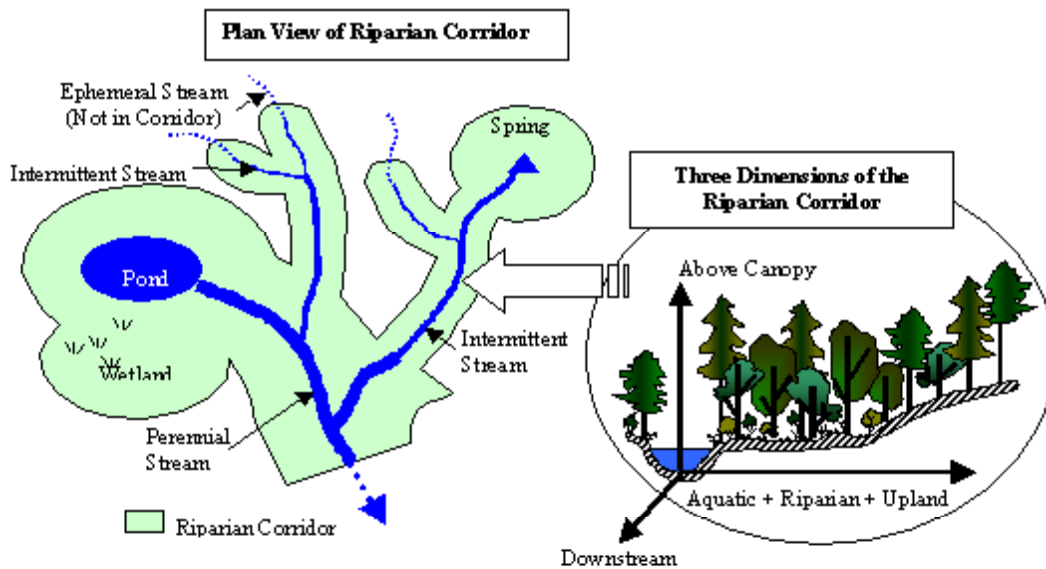


Figure 3 - 1. Simplified Representation of a Riparian Corridor.

The width of the Riparian Corridor varies but is always measured from the edge of the channel or bank. The Corridor encompasses, at a minimum, the 100-year flood plain or the distance listed in Table 3-1, whichever is greater. Beyond this Prescription Area, Kentucky’s Best Management Practices for Forestry (Stringer and Perkins, 1997) are to be followed where applicable.

Table 3 - 1. Width of Riparian Corridor, measured from the edge of each bank.

	Distance from each bank, in feet (if greater than the 100-year flood plain)
Perennial streams and other perennial water bodies (excluding Large Reservoir PA)	100
Intermittent streams	50

An interrupted stream (a watercourse that goes underground and then reappears) will be measured as if the stream were above ground. For braided streams, the outermost braid will be used as the water's edge. For ponds, small lakes, wetlands (including associated seeps or springs), and other water bodies, the measurement begins at the ordinary high water mark.

Estimated acreages of the Riparian Prescription allocations are based on the 100-year flood plain and the widths described in Table 3-1. Riparian corridor widths are designed to encompass the riparian area defined on the basis of soils, vegetation and hydrology (the 100 year flood plain), and the ecological functions and values associated with the riparian area. The 100-year floodplain or the widths in Table 3-1 shall be used to define the Riparian Corridor.

Riparian corridor widths are designed to encompass the riparian area defined on the basis of soils, vegetation and hydrology (the 100 year flood plain), and the ecological functions and values associated with the riparian area. The widths in Table 3-1 shall be used to define the Riparian Corridor.

This Prescription Area consists of 155,370 acres across all Management Areas. Approximately 2,757 acres are classified as Suitable for Timber Production (Scheduled Harvest) – Non-timber emphasis. The remainder of this Prescription Area is classified as Unsuitable for Timber Production – Tree cutting, tree removal, or timber harvest may occur on an unscheduled basis to attain Desired Future Conditions.

Desired Future Condition

Emphasis of Condition: A riparian corridor is managed to retain, restore, and/or enhance the inherent ecological processes and functions of the associated aquatic, riparian, and upland components. Primarily, only natural processes (floods, erosion, seasonal fluctuations, etc.) modify the landscape and resources within the area.

Desired Ecosystem Conditions: The biological integrity of the aquatic community is maintained with a species composition, diversity, and functional organization similar to that of the natural habitat of the region. While native aquatic biodiversity is of main concern, exceptions can be established for desired non-native sport fish species, but not to the detriment of native species.

Suitable habitat is available for aquatic or riparian-associated species. Numerous large trees in a relatively continuous forest cover, diverse vegetation, and a variety of wildlife generally characterize the riparian forest. Wet meadows and other non-forest communities or open forest may occasionally occur where flooding, wind damage, wildland fire, restoration, and/or vegetation management activities have left signs of disturbance. Much of the older riparian forest contains multiple canopy layers, providing a variety of habitat niches and wildlife cover. Snags are abundant and are utilized by a wide variety of species. Dying and down trees, often in small patches, are not uncommon. Other old-growth conditions may exist. Non-native invasive species are not found in this area.

Water quality remains within a range that ensures survival, growth, reproduction, and migration of aquatic or riparian-associated species; and maintains the biological and chemical integrity of aquatic ecosystems. Stream sediment loads are elevated only during and immediately following heavy rainfall.

The physical integrity of aquatic systems, including stream banks, substrate, and other physical components of habitat is intact and stable. In-stream flows support habitat that is dependent upon the quantity and timing of flows for long-term sustainability. Flood plains properly function as detention/retention storage areas of floodwaters and sources of organic matter. Trees within the corridors are managed to provide sufficient amounts and sizes of woody debris to maintain habitat complexity and diversity for aquatic or riparian-associated 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. Modification of the flood plain or wetlands is infrequent but may be needed for protection of human life and property or for habitat or watershed restoration.

The riparian corridor functions as a passage way for aquatic and terrestrial organisms. Aquatic and terrestrial wildlife move along the corridor for daily travel as well as seasonal movement. The corridor also connects habitats and populations, facilitating the gene flow that supports genetically viable populations.

Desired Facilities and Human Activities: Management may take place to:

- a) Provide terrestrial or aquatic habitat improvement
- b) Favor recovery of native vegetation
- c) Sustain or enhance aquatic or riparian-associated species
- d) Control insect infestation and disease
- e) Comply with legal requirements
- f) Provide for public safety
- g) Support other riparian functions and values.

Vegetation management, including a limited amount of logging, may occur when the purpose is to improve riparian function and values or where cable corridors are needed for adjacent Prescription Areas.

Prescribed fire is occasionally used within the corridor to establish or maintain fire-enhanced vegetative communities (e.g., canebrakes).

Many locations in this area are accessible for public enjoyment. Hiking, hunting, fishing, and wildlife viewing are typical of activities that occur in this area. Trails may occasionally cross or follow a stream. A few maintained fishing access points are found near roads.

Developed recreation areas and facilities are maintained or upgraded to be compatible with riparian values and do not adversely impact aquatic systems. If not, they are closed and restored to natural conditions. Few new roads are constructed within the Riparian Corridor. Roads, culverts, and bridges maintain the connectivity of the aquatic community and protect the aquatic environment. Construction is short term and maintains water flow and flood plain function.

Goals and Objectives

1.E-Goal 1. Restore and maintain native aquatic biodiversity.

1.E-Objective 1.A. Ensure stable or improving trends of aquatic macroinvertebrate assemblages (e.g., aquatic insects, mollusks, etc.).

1.E-Goal 2. Restore and maintain native species composition as well as the structural diversity of plant communities in riparian areas and wetlands. This goal seeks to provide habitat for numerous vascular and nonvascular plants, amphibians, birds, and mammals associated at least in part with riparian areas.

1.E-Objective 2.A. Perpetuate native riparian forest type groups such as conifer-northern hardwoods, mesophytic hardwoods, or the river flood plain hardwood and eastern river front types.

1.E-Objective 2.B. Maintains one to two percent of the riparian area in each 5th level watershed (all ownerships) in 0.25-1.0 acre permanent shrub-sapling openings with no canopy to provide habitat for American redstart, cerulean warbler, and additional habitat for beaver.

1.E-Objective 2.C. Maintains one to two percent of the riparian area in each 5th level watershed (all ownerships) in uneven-aged regeneration areas with a dense shrub-sapling component and openings no larger than one-quarter acre. These would be fixed areas no more than one-quarter mile along the stream to provide habitat for the Swainson's warbler, American redstart, and cerulean warbler.

1.E-Objective 2.D. In each Management Area, establish and maintain one to two percent of the riparian area along 4th order and larger streams (all ownerships) in canebrakes of up to ten acres. Existing openings will be used whenever possible. Approximately 50 percent will be in sparse overstory (<40 BA) trees. This objective seeks to restore cane to the riparian areas and provides habitat benefits for Swainson's warbler.

1.E-Objective 2.E. Develop and maintain at least 80 percent of existing hemlock-white pine forest type in a mature to old-growth (70+ age) condition with a thick shrub-sapling understory, without opening and roads. Louisiana waterthrush and sharp-shinned hawk are specifically targeted, the former for general habitat and the latter for breeding habitat.

1.E-Objective 2.F. Prevent, control, or eradicate populations of non-native invasive species.

1.E-Objective 2.G. Artificially created wetlands should be designed to function and appear as natural wetlands. New wetlands should benefit aquatic or riparian-associated species.

1.E-Objective 2.H. Maintain all butternut sites in a grassy or old-field condition absent of fescue to promote growth of individual trees and encourage reproduction.

1.E-Goal 3. Maintain and restore the water quality (biological and chemical integrity) necessary to support healthy riparian, aquatic, and wetland ecosystems, and to ensure survival, growth, reproduction, and migration of aquatic or riparian-associated species.

- 1.E-Objective 3.A.** Concentrate restoration efforts in watersheds with impaired water bodies on Kentucky's Clean Water Act, Section 303(d) list or in watersheds that are a high priority for protection⁷.
- 1.E-Objective 3.B.** Reduce the number of impaired water bodies on Kentucky's Clean Water Act, Section 303(d), list that are located within the DBNF.
- 1.E-Goal 4.** Maintain and restore the physical integrity of aquatic ecosystems, including stream banks, substrate, shorelines, coarse woody debris, riffles, and other components of this habitat.
- 1.E-Objective 4.A.** Human activities should not cause water temperatures in cool- and cold-water streams to exceed their natural seasonal temperature ranges.
- 1.E-Goal 5.** Restore and maintain a stable sediment regime that includes the timing, volume, rate, and character of sediment input, storage, and transport.
- 1.E-Objective-5.A.** Sustain sedimentation rates that maintain or improve biological conditions. Measure rates using best available channel stability techniques.
- 1.E-Objective-5.B.** Where feasible, new roads should be located outside the Riparian Corridor. If a road is located in the Riparian Corridor, construct to protect riparian functions and values.
- 1.E-Goal 6.** Provide for unrestricted movement of aquatic fauna, except for existing approved dams.
- 1.E-Objective 6.A.** Remove or reconstruct artificial structures that impede the movement of aquatic organisms.
- 1.E-Objective 6.B.** Reduce or remove contaminants that impede the movement of aquatic organisms.
- 1.E-Objective 6.C.** Inventory within two years all artificial structures in streams with PETS species. Each year improve, rehabilitate, or remove 20 percent of structures that adversely impact passage of aquatic organisms; give priority to passageways for aquatic PETS species.
- 1.E-Goal 7.** Protect the riparian ecosystem while providing for a reasonable amount of compatible recreation.
- 1.E-Objective 7.A.** Inventory dispersed camping sites within 100 feet of perennial streams, in conjunction with annual integrated inventories. Examine 20 percent of known sites annually and designate and rehabilitate or close. Give priority to sites in proximity to aquatic PETS species.

⁷ USDA Forest Service 2001a, Walker 2001a

Standards

MINERALS

- 1.E-MIN-1.** All federal mineral activity will be implemented in accordance with the Desired Future Condition and standards of this prescription area; and, depending on site-specific determination, the Forest Service may specify that the surface is not to be disturbed during mineral exploration or development. New federal oil, and gas leases will contain either a No Surface Occupancy stipulation or a Controlled Surface Use stipulation.
- 1.E-MIN-2.** Do not remove common variety minerals, such as sand and gravel, from stream channels, except as necessary to reduce undesirable buildup at stream crossings.
- 1.E-MIN-3.** Allow non-commercial mineral collection only under terms of a special use authorization where it does not adversely affect stream channel stability, substrate, aquatic species, or their habitat.

ROADS/ENGINEERING

- 1.E-ENG-1.** Construction of any new stream crossings must not adversely affect passage of aquatic organisms or alter stream flow. Exceptions may be allowed to prevent the upstream migration of undesired species.
- 1.E-ENG-2.** Locate fords only where bottom conditions will support the designed use. Maintain stream channel contour and grade when modifying a crossing; armor the bottom with materials that will provide for movement of fish.
- 1.E-ENG-3.** Where risks of resource damage are high, each road segment will be constructed and stabilized prior to starting another segment (stage construction). High-risk areas are those that contain landslide-prone areas, steep slopes, highly erosive soils, or PETS species.

WILDLIFE

- 1.E-WLF-1.** Prohibit in-stream substrate disturbance by mechanical equipment from February 1 through July 31 if aquatic PETS species occur within one-quarter mile upstream and one mile downstream of the project site.
- 1.E-WLF-2.** Where existing grassy openings cause adverse impacts to riparian and aquatic associated species, they will be rehabilitated or no longer maintained as a grassy opening.
- 1.E-WLF-3.** New grassy openings will be established only where needed to provide habitat for aquatic or riparian-associated species.
- 1.E-WLF-4.** Maintain all existing openings in the riparian area corridors of the Red River, the Middle Fork of the Red River, and their larger tributaries. Maintain alternating strips or clumps of grassy/forb, old-field condition and shrubby condition to provide habitat for the only documented populations of cornsnake on the forest.

RECREATION

- 1.E-REC-1.** No new trails for off-highway vehicles, bicycles, horses, and other non-pedestrian modes of transportation are to be constructed within the area, except to approach and cross at designated sites, or where the trail location requires some encroachment (e.g. to accommodate steep slopes).
- 1.E-REC-2.** Do not allow overnight tethering or corralling of horses or other livestock within 100 feet of stream courses or 300 feet of other water bodies. Maintain existing corral sites to limit impacts to water quality and riparian corridors.
- 1.E-REC-3.** Any trail construction must be accomplished in accordance with relevant state Best Management Practices⁸ or Forest Service regional/national direction for erosion control (e.g., USFS Region 8 Trails South⁹).
- 1.E-REC-4.** Proposed or new facilities must be developed in accordance with Executive Orders 11988 (for 100-year flood plains) and 11990 (for wetlands). Alternative locations must be considered for all new facilities. Where none exist, potential impacts must be mitigated to moderate the severity of those impacts.
- 1.E-REC-5.** Areas will be managed to meet or exceed Recreation Opportunity Spectrum experiences of semi-primitive non-motorized, semi-primitive motorized, and roaded natural.
- 1.E-REC-6.** New non-motorized trail construction is allowed to improve existing trail configuration and improve access to streams, lakes and the riparian corridor.
- 1.E-REC-7.** Motorized and non-motorized trail reconstruction and relocation within the riparian corridor are allowed to reduce impacts to riparian and aquatic resources.

VEGETATION

- 1.E-VEG-1.** Cable logging corridors, cable sets, and tail trees may be installed in this Prescription Area only at designated locations. Full suspension will be required if logs are yarded across perennial or intermittent streams.
- 1.E-VEG-2.** All motorized equipment must be serviced outside of riparian corridors.
- 1.E-VEG-3.** Cut-and-leave will be the preferred method for control and suppression of insects and disease in the Riparian Corridor. 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-associated species, poses a threat to public safety or facilities, or when the purpose or need for action will not be met.
- 1.E-VEG-4.** Skid roads and skid trails used for management of adjacent Prescription Areas must not encroach upon the riparian corridor.
- 1.E-VEG-5.** The removal of coarse woody debris (pieces greater than 3 feet long and 4 inches in diameter on the small end) is allowed only if it poses a risk to public safety or water quality,

⁸ Stringer and Perkins 1997

⁹ USDA Forest Service [undated]

degrades habitat for aquatic or riparian-associated species, or when it poses a threat to private property or Forest Service infrastructures.

1.E-VEG-6. Collection of non-timber forest products within 50 feet of a perennial or intermittent stream is subject to the following restrictions:

- a) Personal use moss collection is prohibited.
- b) Collection of other species within this zone is limited to those species that cannot be feasibly collected elsewhere (e.g., no collection of Rhododendron is allowed within riparian areas because it can be collected on upland or midslope sites.)
- c) For ground disturbing activities (transplants, root digging, etc.) a maximum of 10 plants will be allowed per permit, with no more than two permits sold to an individual per year.
- d) Non-destructive activities (seed collection, cuttings, etc.) are allowed for all species unless otherwise prohibited.

PRESCRIBED FIRE

1.E-FIRE-1. Do not construct prescribed firelines with heavy, mechanized equipment (e.g., trackhoes and bulldozers).

1.G. RARE COMMUNITY

Setting

Rare communities usually occur as small (a few hundred square feet to a few acres) areas of distinguishing vegetation, often with related surface and ground water conditions, and soil and bedrock characteristics. They generally occur as small islands in the context of a larger forest community. They are disturbance sensitive, but often disturbance dependent communities of plants and animals. Most of these communities provide specific habitat for rare or uncommon plants and animals. Prior to 1700, many of these rare communities were more abundant than they are today (Owen 2002, Trani-Griep 2002). Many are likely to disappear over time without direct manipulation of vegetation.

Management zones have been established around the most sensitive of these communities. In this document, the rare community itself is referred to as the “rare community site,” and the surrounding management zone is referred to as the “rare community management zone” (See Figure 3 - 2). Rare community management zones occur only around wetland communities.

Community Descriptions: Rare communities occur throughout the DBNF. Many specific communities have been identified on the Forest. They are described below as they currently exist. Many different systems exist for defining and identifying any community, and there is no exception for rare communities (see Owen 2002). All are influenced by surrounding abiotic and biotic conditions as well as management activities within, and adjacent to, the rare community.

Streamhead Seeps/Bogs: Naturally occurring (rarely induced by human action) wetlands associated with low-order streams. As the name implies, they usually occur in or near streamheads, on usually 2nd and 3rd order streams, rarely on or near 4th order streams. These are areas of boggy soils with vegetation growing in saturated pockets of sand. They are supplied water by both the stream and ground water seeps from geologic contact zones along the stream channel. Water flows perennially in these sites, although at times it is low-rate subsurface flow. Vegetation is dominated by herbaceous species with sphagnum moss species often dominant. Trees and shrubs may be present. These sites harbor many rare or uncommon species such as grass pink, white fringeless orchid and ginger-leaved grass-of-Parnassus. Numerous, possibly endemic, crayfish species inhabit these sites. They provide habitat for a variety of amphibians, birds, and small mammals (Trani-Griep 2002). These sites are sensitive to changes in water flow, especially changes in surface water flow. Roads and other soil cutting activities can severely alter their hydrology.

Slope Seeps: Naturally occurring wetlands associated with extensive geologic contact zones. Generally located down slope, these low-order streams drain, rather than feed, wetlands. Like streamhead seeps and bogs, these boggy areas are formed of saturated soils. Water flows perennially in these sites, although at times it is low-rate subsurface flow. Vegetation is dominated by herbaceous species with sphagnum moss species often dominant. Trees and shrubs may be present. These sites harbor many rare or uncommon species, such as the caric sedge *Carex seorsa* and the liverwort *Telaranea nematodes*. They provide habitat for a variety of amphibians, birds, and small mammals (Trani-Griep 2002). The sites are sensitive to changes in water flow, especially changes in surface water flow. Roads and other soil cutting activities can severely alter the hydrology of these sites.

Swamps: Naturally occurring wooded wetlands. They are characterized by standing water throughout the year (some drying may occur in drought years) and the presence of trees tolerant of flooding. They form in depression areas where clay layers prevent seepage of water out of the depressions. Water may come from flooding, stream inflow, or ground water sources. Trees dominate the vegetation, but tufts of emergent herbaceous species are common. These harbor many rare or uncommon species, such as the upright caric sedge. Many swamps have been drained or filled-in over the last 200 years (Owen 2002).

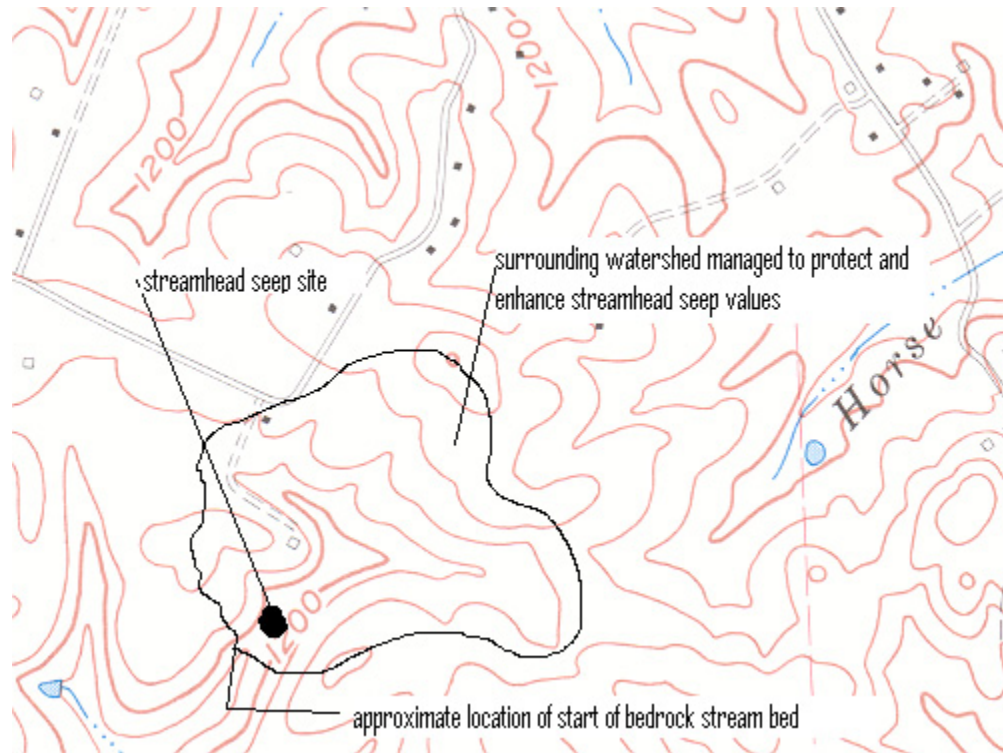


Figure 3 - 2. This example shows the delineation of a watershed area that forms a rare community management zone around a wetland rare community site. (Not an actual site.)

Natural Ponds: Naturally occurring water bodies. On the DBNF, they occur along ridgetops, usually on those capped by sandstone. They appear as old farm ponds, but usually have trees growing in or at their edges. Frequently, the buttonbush shrub is found in these ponds. Ponds may harbor rare or uncommon species such as pond caric sedge. Several of these ponds have yielded pollen and charcoal records from bottom sediments. Unfortunately, dredging or fill altered many of these ponds in the last 200 years. Land use change on surrounding lands has also altered many natural ponds. Many of these ponds retain water throughout the year, except in drought years, but some regularly dry out.

Limestone Glades: Naturally occurring areas (rarely induced by human action) of thin soil on limestone cliffs or outcrops. Tree growth is absent or severely stunted, although shrubs may be present. Vegetation dominated by herbs, usually grasses and sedges, is often sparse. Most glades are dry, but they can have associated seeps. They harbor rare or uncommon species such as mountain lover and nettleleaf noseburn. They are threatened by fire exclusion, loss of large-ungulate herbivory, and activities such as quarrying (Trani-Griep 2002).

Sandstone Glades: Naturally occurring areas of thin soil on sandstone cliffs or outcrops. Tree growth is absent or severely stunted, although low shrubs are commonly present. Vegetation is dominated by low shrubs or herbs and may be sparse. Most glades are dry, but they can have associated seeps. They harbor rare or uncommon species such as box huckleberry and occasionally Appalachian spreading pogonia.

Spray Cliffs: Naturally occurring areas (rarely induced by human action) found at and adjacent to waterfalls. They are zones of high humidity, constant moisture, and cool temperatures created by waterfall spray. Portions of the cliff are often shaded, further enhancing moist, cool conditions. Spray cliff-zones harbor many rare or uncommon species such as little mountain meadow rue, sword moss, and cliff caddisfly.

Canebrakes: Naturally occurring grasslands or wooded grasslands dominated by a form of cane, a native bamboo. They are usually dense and once extended for tens of acres. Canebrakes are usually associated with river flood plains (river cane form), but also occur on uplands (hill cane form). Many of the canebrakes on the Forest are in poor condition; all are small. Cane itself is somewhat uncommon on the Forest. Canebrakes may once have been primary habitat (Trani-Griep 2002, Brantley and Platt 2001) for the uncommon Swainson's warbler.

Native Warm-season Grasslands: Naturally occurring grasslands (such areas created by human action also are present on the forest) that are dominated by warm-season grasses. Many of these areas are edaphically controlled, but most are maintained by fire. Historically, they were associated with burned yellow pine, upland oak and mixed oak-yellow pine woodlands, occurring as open areas between clusters of trees. They were likely more common in the past. In the grassland areas, trees are usually absent, although small shrubs and saplings may occur in sites of poorer condition. These areas are generally small, often less than one-quarter acre, but may occur as areas as large as 20 to 30 acres. Native warm-season grasslands provide habitat for many rare or uncommon species such as royal catchfly and yucca-leaved rattlesnake master. In conjunction with woodland, they provide habitat for uncommon species such as eastern slender glass lizard and Diana fritillary. These communities are threatened by fire exclusion, loss of large ungulate herbivory (grazing by large, hooved mammals) and land use change (see Owen 2002).

Wet Meadows: Native communities associated with fragipan soils or ground/surface water sources that maintain moist to wet soils through most of the year. Cool-season grasses (some warm-season grasses may be present), sedges and rushes dominate the vegetation. Various forbs are present. Woody plants are generally few, primarily small shrubs. Wet meadows are often associated with river flood plains, but may occur on broad toe slopes and ridges. They provide habitat for rare or uncommon species such as grass-pink, and if extensive enough sedge wren. These communities are threatened by draining, loss of large ungulate herbivory (grazing by large, hooved mammals), possibly fire exclusion, and control of stream flows.

Cedar Glades: Naturally occurring communities associated with usually dry limestone outcrops and cliffs. On the DBNF, most are along ridgetops, but at least one is on a limestone slope. The sites are rocky with thin soil. Eastern redcedar is often the dominant woody species, but past management may have reduced cedar, allowing oaks and ashes to become dominant. The canopy may be open with either a grass-forb or shrub dominated understory. Closed canopies often have sparse understories with extensive thickets of catbrier and sawbrier. The open canopy condition provides habitat for many rare or uncommon species such as mountain lover and Harris's goldenrod. Many have been altered through fire exclusion.

Cedar Woodlands/Grasslands: Are defined as a naturally occurring mosaic of eastern redcedar and predominantly native grass-sedge patches. The communities often appear as overgrown abandoned fields, but are dominated by native species. These communities occur on siltstone (rarely other calcareous substrates including mudstone and limestone) slopes. The sites are generally dry, and a combination of infrequent fire and edaphic conditions maintain the community. Herbivory by large ungulates may have occurred in the past. The loss or reduction of these disturbances threatens the community type. This community type is known in Bath County, but has not yet been documented on the DBNF. This community type is known to provide habitat for the rare juniper sedge. The community is included here as there is some possibility it may occur on the Forest, and there is need to recognize the community. Additionally juniper sedge occurs more frequently in an oak dominated variant of this community type at the southern edge of its range (Naczi and Ford 2001). This community variant is included here if it occurs with juniper sedge.

This Prescription Area, found in all Management Areas, is currently estimated at approximately 1,200 acres across all Management Areas.

This Prescription Area is classified as Unsuitable for Timber Production – Tree cutting, tree removal, or timber harvest may occur on an unscheduled basis to attain Desired Future Conditions.

Desired Future Condition

Emphasis of Condition: These areas are managed to promote the habitat conditions that support the diverse and locally unique assemblage of plant and animal species occurring within them. While not devoid of human influence, natural conditions are allowed to regulate the communities when possible. Rare communities may continue to be protected as classified, or may be recommended for designation as a botanical or zoological area.

Desired Ecosystem Conditions: These systems are dynamic and subject to a variety of weather and other disturbances. Some, such as streamhead wetlands, appear to be somewhat mobile within a stream channel over time, so they are never truly stable. However, as habitat for numerous rare species, stability of the community within the capability of the system is desired; i.e., the desire is to sustain the communities in a condition to support the species associated with them. These areas are characterized by conditions particular to the community in question.

Streamhead Seeps/Bogs and Slope Seeps: Are stable within their respective watersheds. Natural ground and surface water flows and flow patterns are allowed to control the hydrology of the system with limited influence from surface features such as roads and trails. The vegetation immediately adjacent to the seep/bog provides a mosaic of heavy to light shade and open areas. The vegetation within the seep/bog is dominated by graminoids within a matrix of sphagnum mosses and other mosses and liverworts. Vegetation within the rare community area of the watershed is conducive to providing steady, seasonally variable, water flow to the system and allows lateral light to reach portions of the seep/bog. Vegetation around upland seeps/bogs is maintained in an array of basal areas from 60-100 square feet per acre, and is influenced by regularly prescribed fire, which may at times burn through all or portions of the seep/bog. Vegetation around more sheltered seeps/bogs may or may not be fire-mediated. Non-native invasive species are not found in this community and aggressive native species are controlled.

Swamps: Are stable within their respective watersheds. Natural ground and surface water flows and flow patterns will be allowed to control the hydrology of the system with limited influence from surface features such as roads and trails. The vegetation immediately adjacent to the swamp provides a mosaic of heavy to light shade and open areas. The vegetation within the swamp is dominated by graminoids underneath a canopy of trees and shrubs tolerant of prolonged flooding and saturated soils. Areas of shaded and open, standing water are likely to occur. Snags likely occur in the swamp. Vegetation immediately surrounding swamps is generally wet-soil tolerant. Vegetation in the rare community area of the watershed is generally of a river flood plain or mixed mesophytic forest type. Non-native invasive species are not found in this community and aggressive native species are controlled.

Natural ponds: Are hydrologically stable. Natural seasonal fluctuations in water levels are expected. In extended drought periods, natural ponds may dry completely. Species such as buttonbush and red maple may grow in ponds, or ponds may have open water. Natural ponds will be in forested settings. Surrounding yellow pine or hardwood forests may have low to high basal (60-100+ square feet per acre), but at the pond margin both open and dense vegetation areas occur. In addition dead falls are found in and at the edge of the pond. Snags may occur in and at the edge of the pond. Vegetation immediately adjacent to the pond consists of species tolerant of saturated soils and seasonal flooding. Prescribed fire may occur adjacent to natural ponds. Non-native invasive species are not found in this community and aggressive native species are controlled. No fish are found in these ponds.

Limestone Glades: Remain largely open, with limited woody vegetation. Pockets of low shrubs may occur. Mosses, graminoids, forbs, and rock dominate the glade. An occasional tree may occur. Most often these glades are dry, but seasonal or perennial seeps are found in many. Surrounding wooded land may have low to high basal area, 40-100+ square feet per acre. Some areas of dense vegetation occur at the transition between glade and wooded area. Low intensity, short duration fire may occur in these glades, but is infrequent, with generally no more than one fire per 10 years. Non-native invasive species are not found in this community and aggressive native species are controlled.

Sandstone Glades: Remain largely open, with limited trees and tall shrubs. Lichens, graminoids, forbs, low shrubs, and rock dominate the glade. An occasional tree may occur. These glades generally are dry, but seasonal or perennial seeps are found in many. Surrounding wooded land may have low to high basal area, 40-100+ square feet per acre. Some areas of dense vegetation occur at the transition between glade and wooded area. In places, adjacent canopy trees shade the glade at least part of the day. Low intensity, short duration fire may occur in these glades, but is infrequent, generally no more than one per 10 years. Non-native invasive species are not found in this community and aggressive native species are controlled.

Spray Cliffs: Are hydrologically stable, responding to the natural seasonal variation in streamflow. Cliff surfaces adjacent to the cliff remain moist and humid. They are situated in forested conditions, with the crest of the waterfall in yellow pine or oak dominated forest in upland areas, and the crest in mixed hardwood or mixed conifer-northern hardwood forest in midslope or lower slope areas. The foot of the waterfall is usually heavily shaded and high humidity and cool temperatures are maintained. The slopes within 200 feet either side of the waterfall are undisturbed except by natural events. The cliff edge within 200 feet either side of the waterfall is undisturbed except by natural events, occasional prescribed fire, and replacement

of pitch pine if it does not naturally regenerate. Non-native invasive species are not found in this community and aggressive native species are controlled.

Canebrakes: Are actively growing, and stable or increasing in size. Whether under a canopy or in the open, stems are dense, generally greater than 15 per square foot. Few plant species other than cane and overstory trees are found in these areas. Both upland and river bottom canebrakes are found. Canebrakes burn approximately once every seven years. Other than flood and fire events, and management to maintain wooded sites at between 40-60 square feet of basal area, canebrakes are undisturbed. Roads and trails are not found in canebrakes. Non-native invasive species are not found in this community and aggressive native species are controlled.

Native Warm-season Grasslands: Usually occur as areas of 1 to 15 acres in size, but some areas may exceed 100 acres. Native warm-season grasses and native forbs dominate the community. Few, if any, shrubs or trees occur in the areas, but open forest may occur around the community or as small, isolated pockets in extensive areas of native warm-season grasses. Numerous birds, small mammals and reptiles find habitat in these areas. Regular occurrence of fire reduces accumulated biomass and promotes flowering of grasses and forbs. Non-native invasive species are not found in this community and aggressive native species are controlled.

Wet Meadows: Occur as areas of one-quarter to five or more acres in size. They are hydrologically stable, influenced primarily by seasonal variation in precipitation. The water table remains at or just below the surface. Hydrological influences from trails and roads are minimal. Native graminoid and native forb species dominate the vegetation. Small clusters of shrubs or trees may occur. Non-native invasive species are not found in this community and aggressive native species are controlled.

Cedar Glades: Occur as mosaics of open eastern redcedar (40-60 square feet basal area) and open, generally rocky areas. Other trees such as chinquapin oak and blue ash may be present, but eastern redcedar is dominant. In open areas, low shrubs or grass-sedge-forb species dominate the vegetation. Infrequent, low-intensity fires with short residence-time occur at greater than 10-year intervals. Non-native invasive species are not found in this community and aggressive native species are controlled.

Cedar Woodlands/Grasslands: Remain stable; eastern redcedar is the dominant woody species (with the exception indicated in the Setting). Open grass-sedge areas are herbaceous with little or no woody vegetation; forbs are secondary to grasses and sedges. Fire is expected in these areas, probably on a greater than 10-year return interval. Non-native invasive species are not found in this community and aggressive native species are controlled.

Desired Facilities and Human Activities: Roads, trails, or other facilities may be found within some rare community areas, but these are not encouraged. Dispersed recreational uses occur but are not encouraged. Management activities may occur as needed to restore, maintain, or enhance these communities, including, but not limited to, maintenance and construction of roads, trails, ponds, openings, prescribed burning, and removal of any natural materials, including through salvage cut.

Goals and Objectives

1.G-Goal 1. Maintain rare communities in a condition capable of sustaining the species associated with them.

1.G-Objective 1.A. Bring all National Forest System roads in or within 100 feet of a rare community site or management zone, and which are required for administrative or public access, to a design standard compatible with the associated rare community to prevent diminution of the community's function. Close or obliterate unneeded roads.

1.G-Objective 1.B. Eliminate non-native invasive species from the areas as soon as possible. Prevent the establishment of populations of non-native invasive species. Control invasive native species if they threaten the integrity of the rare community.

1.G-Objective 1.C. Use available tools, such as prescribed fire, to maintain the community in a reasonably stable condition. Apply management as frequently as necessary to prevent major changes in vegetation. Base the timing of management on a rare community's specific characteristics. Take action as soon as sufficient changes in the community are discovered.

1.G-Objective-1.D. Discourage camping in rare community sites.

1.G-Objective-1.E. Maintain and perpetuate all streamhead and slope seeps and swamps that provide habitat for Conservation species.

1.G-Objective-1.F. Restore or re-establish rare communities where impacts have not fully destroyed the character and function of the community.

1.G-Objective-1.G. Where it is has been degraded, rehabilitate canebrake habitat.

1.G-Objective 1.H. Maintain native warm-season grasslands with periodic prescribed burning.

1.G-Objective 1.I. Maintain a high diversity of native graminoids and forbs in native warm-season grasslands.

1.G-Objective 1.J. Maintain a stable hydrologic regime in wet meadows within natural variation.

1.G-Objective 1.K. Maintain a stable hydrologic regime at spray cliffs within natural variation.

1.G-Objective 1.L. Maintain a stable hydrologic regime natural ponds within natural variation.

1.G-Objective 1.M. Maintain limestone and sandstone glades with sparse tree cover and a mosaic of rock surface and vegetation.

1.G-Objective 1.N. Maintain redcedar as the dominant tree species in cedar glades.

1.G-Objective 1.O. Maintain a mosaic of redcedar and graminoid vegetation in cedar woodlands/grasslands.

1.G-Goal 2. Map and catalog all occurrences of each recognized rare community.

1.G-Objective 2.A. Conduct an inventory of each rare community occurrence as part of an integrated inventory.

Standards for Rare Communities

Unless otherwise indicated by the codes below, Standards apply to all Rare Community Prescription Areas:

Standards for streamhead bogs or seeps, slope seeps, and swamps, if they provide habitat for Conservation species (WET): Many of these areas occur within the Riparian Corridor Prescription Area. Refer to this prescription for direction as well.

Standards for Canebrakes (CANE): These are usually found in riparian areas. Refer to the Riparian Corridor Prescription Area as well.

Standards for Glades (GLADE): These areas are usually associated with cliffs, but are not limited to them. Refer to the Cliffline Community Prescription Area as well.

Standards for native warm season grassland (GRASS): These areas may be associated with glades, bottomlands, forest, and other areas. Direction for other habitat associations' Prescription Areas should be considered.

MINERALS

1.G-MIN-1. Within Rare Community Sites: the surface is not to be disturbed during any federal mineral exploration or development activity; development of federally owned oil and gas is subject to the no surface occupancy stipulation.

1.G-MIN-2. Within Rare Community Management Zones: development of federally owned oil and gas is subject to the controlled surface use stipulation; all other federal mineral activity will be implemented in accordance with the Desired Future Condition and standards of this prescription area.

ROADS/ENGINEERING

1.G-ENG-WET-1. Subject to valid existing rights, do not permit new roads in the watershed above and adjacent to a rare community site (Table 3 - 2). Do not concentrate surface water runoff from roads, ruts, trails, and landings into streams within the defined watershed but rather disperse it across a wide area.

1.G-ENG-WET-2. Do not permit management activities in seep/streamhead/swamp rare communities (Figure 3 - 2) that are likely to decrease, primarily through changes in hydrologic balance, the likelihood of maintaining the viability of species that have uncertain prospects for continued viability. Hydrologic changes include those caused by changes in canopy vegetation.

1.G-ENG-CANE-1. Do not place impoundments where they can flood or alter canebrakes.

RECREATION

- 1.G-REC-1.** Allow no off-highway vehicle use in the Rare Community site.
- 1.G-REC-2.** Build no new trails in Rare Community sites.
- 1.G-REC-3.** Do not concentrate public use in Rare Community sites.
- 1.G-REC-4.** Areas will be managed to meet or exceed Recreation Opportunity Spectrum experiences of semi-primitive non motorized, semi-primitive motorized, and roaded natural.

VEGETATION

- 1.G-VEG-1.** Collection of non-timber forest products is not allowed, except for scientific purposes.
- 1.G-VEG-WET-1.** Do not manage the overstory canopy basal area (BA) for less than 60 square feet/acre (existing areas of lower BA may be kept at the lower BA; existing road and utility rights-of-way exempted) in the small watershed above and adjacent to and containing seeps, streamhead bogs, and swamps (Figure 3 - 2). The midstory layer BA may be reduced or removed.
- 1.G-VEG-WET-2.** Do not manage the overstory canopy basal area for less than 60 square feet per acre in the small watershed below and containing seeps, streamhead bogs, or swamps before the stream flows on extensive bedrock (Figure 3 - 2). Areas of existing lower basal area may be managed at the lower basal area. Once the streambed is on extensive bedrock, or below an incised bedrock cataract, head cutting and down cutting concerns are minimized and this standard does not apply.
- 1.G-VEG-CANE-1.** Do not alter canebrakes, except to benefit the canebrake, or as needed for management of PETS species or habitat for Conservation species.

PRESCRIBED FIRE

- 1.G-FIRE-1.** Use prescribed fire only when not detrimental to the rare community.
- 1.G-FIRE-2.** Do not use heavy equipment in rare community sites for prescribed burning.
- 1.G-FIRE-WET-1.** Do not build firelines for prescribed burns through streamhead seeps/bogs, swamps, or other natural wetland rare community management zones, if they are likely to change the hydrologic balance.
- 1.G-FIRE-GLADE-1.** Do not directly ignite glades during prescribed burning unless vegetation is primarily graminoid. Allow fire to move into the glade from other ignited areas.

1.I. DESIGNATED OLD-GROWTH

Setting

Designated Old-Growth refers only to this Prescription Area, and encompasses areas that will be managed specifically to promote, enhance, and maintain the old-growth community. Examination of Future Old-Growth on the forest determined that the dry-mesic oak and mixed mesophytic hardwood (including American beech) were under-represented, with less than 8 percent by old-growth type (Forestwide Objective 1.4.B.). Areas (9) identified for designation contain a high representation of these types, oldest in age structure, and that would add to the network distribution across the forest.

Old-growth stands may exist outside this Prescription Area. Old-growth does not imply first-growth forest, nor does it imply wilderness.

Currently, this Prescription Area consists of nine distinct units ranging from 325 acres to 2,552 acres, averaging 1,703 acres. If any units are to be added in the future, they generally should be at least 300 acres in size for distributional purposes, although stands as small as 10 acres could be included to provide representation for uncommon community types, or for social and cultural benefits.

This Prescription Area contains approximately 15,300 acres across all Management Areas, and is classified as Unsuitable for Timber Production – Tree cutting, tree removal, or timber harvest may occur on an unscheduled basis to attain Desired Future Conditions.

Desired Future Condition

Emphasis of Condition: Old-age trees are encouraged to develop; related structural attributes exist. Old-growth stands are those in the later stages of structural development and typically differ from earlier stages in a variety of characteristics which may include tree size, accumulation of large wood material, number of canopy layers, species composition, and ecosystem function. Different forest communities reach old-growth conditions at different ages, under different disturbance regimes and as a result of differing management strategies. These areas contribute to an old-growth network across the Forest. Both natural processes and anthropogenic fire regimes work to maintain the old-growth types.

Desired Ecosystem Conditions: These areas are characterized by mostly old forest. Trees within old-growth communities range from 100-350 years in age¹⁰, based in large part on the characteristics of individual trees and site conditions. Individual trees may be older. Numerous large, old trees along with mid-size trees, a scattering of snags and senescent trees of all sizes, as well as rotting deadfalls, are present throughout. Conditions in these old-growth areas reflect the combined characteristics of each habitat association and landscape position.

In mixed mesophytic, white pine-hemlock and conifer-northern hardwood habitat associations, older, tall, large-diameter trees may predominate, but old-growth areas remain uneven-aged forest. Tree stem density is generally high, but variation is to be expected. A closed canopy is common, but

¹⁰ Average age of dominant and codominant trees. Some species such as hemlock, buckeye, and beech may live longer.

tree fall or death frequently creates gaps that become patches of dense, shrubby growth. Fires occur infrequently.

Upland associations such as oak, yellow pine and mixed oak-yellow pine communities may maintain some even-aged characteristics, but with time they can become uneven-aged. These old-growth associations typically include scatterings of large-diameter, tall trees along with more numerous smaller trees. Tree stem density is generally low to moderate. The canopy is open to nearly closed. Tree fall or death may create small to large gaps that become patches of dense, shrubby growth or prairie-like grassland. Fires frequently occur in these areas. Uneven-aged forest canopies typically are irregular, broken by gaps from natural causes.

Desired Facilities and Human Activities: Developed facilities are not common, but existing trails and other developed recreation sites may remain in place. Dispersed recreation occurs, with generally limited evidence of visitor activities. Depending on the community type and landscape position, evidence of human activity may be limited or extensive, providing a variety of habitat conditions (Forestry Report R8-FR-62, pgs 23 and 25). Prescribed burning and tree cutting and/or removal promote upland old-growth characteristics.

Goals & Objectives

1.I-Goal 1. Move the area toward a diversity of old-growth community types.

1.I-Objective 1.A. Restore yellow pine-oak and oak-yellow pine forest on appropriate sites.

1.I-Objective 1.B. Use prescribed burning to help perpetuate fire-mediated communities.

1.I-Objective 1.C. Reduce the number of trees in stands on xeric to dry sites to achieve a BA of between 60 and 90 square feet per acre.

1.I-Goal 2. The landscape character goal is “natural appearing.”

1.I-Objective 2.A. Scenic integrity objectives range from “high” to “medium” with occasional small areas of “low” where vegetation management is necessary.

1.I-Objective 2.B. Existing roads under Forest Service jurisdiction should be closed and obliterated, where feasible, except for reasons of safety and administrative efficiency. When possible, remaining roads in Forest Service jurisdiction should be gated and maintained at minimum design levels.

1.I-Objective 2.C. Close or rehabilitate areas showing high resource damage.

1.I-Objective 2.D. When conducting salvage operations, reserve 300-acre blocks, which can include areas of up to 90 acres of damaged or downed trees.

1.I-Objective 2.E. Use silviculture and/or pest management where needed to meet legal or safety requirements, or maintain or promote old-growth characteristics.

Standards

MINERALS

1.I-MIN-1. Federal minerals are available under the controlled-surface-use stipulation for this Prescription Area (CSU 1.G), but mineral development facilities will be limited to one percent of each individual old-growth area.

WILDLIFE

1.I-WLF-1. Wildlife openings may not be created in this area.

VEGETATION

1.I-VEG-1. Collection of non-timber forest products is not allowed, except for scientific purposes.

1.I-VEG-2. Only native species or annual cereal grains will be used when revegetating disturbed areas.

1.I-VEG-3. Permit salvage or sanitation activities only when damage to a stand within an old-growth unit is greater than 30 percent of the original stand basal area *and* the total extent of damage exceeds 40 percent of the old-growth unit's area. As defined for this Prescription Area, a stand has damage when trees are dead or likely to be dead within 10 years.

1.I-VEG-4. During salvage or sanitation activities, reserve all 300-acre minimum size (the larger, the better) groups of stands using the following criteria:

- 1) Include as many intact stands as possible
- 2) May include up to 30 percent damage throughout
- 3) May include up to 30 percent (90 acres in 300) of the areas with stands over 40 percent damage.

WILDLAND FIRE

1.I-FIRE-1. Stabilize all wildland fire control lines as soon as possible after their use. If the firelines are revegetated, use native species when available.

1.J. SIGNIFICANT BAT CAVES

Setting

The Significant Bat Caves Prescription Area includes significant bat caves and a ¼-mile radius around each opening. A significant bat caves contains a minimum of 50 Indiana bats (hibernacula) or 5 Virginia or Rafinesque's big-eared bats (maternity site or hibernacula). Such sites are found in a naturally occurring cavity or system of interconnected passages, or a tunnel or mine, located beneath the surface or within a cliff, ledge, or rockshelter. These sites occur in both limestone and sandstone.

This Prescription Area, found across all Management Areas, consists of approximately 6,100 acres.

This Prescription Area is classified as Unsuitable for Timber Production – Tree cutting, tree removal, or timber harvest may occur on an unscheduled basis to attain Desired Future Conditions.

Desired Future Condition

Emphasis of Condition: This Prescription Area is managed to restore or maintain the integrity of significant bat caves, cave openings, and associated underground physical, geological, hydrological, and biological features. These areas remain relatively undisturbed by management activities, except for those designed to protect or maintain PETS species or habitat for Conservation species. Microclimate conditions, primarily temperature and humidity associated with these landscape features, persist. In addition, protection is provided for heritage resources, which are often associated with these features.

Desired Ecosystem Conditions: Overstory trees within this Prescription Area are generally old and usually replaced by natural processes. The forest community within the area varies greatly because caves and rockshelters may occur anywhere on the Forest, ranging from low elevation streamside areas and higher elevation ridgetops. Depending on location, trees may be widely scattered to heavily stocked. Prescribed fire is allowed in this area and trees may show occasional scorch marks. Non-native, invasive species do not occur.

Spelothems, speleogens, and other unique cave formations continue to develop or erode under natural conditions. Water flowing into the cave system contains normally fluctuating background levels of sediment, organic matter, and dissolved minerals and is not polluted.

Desired Facilities and Human Activities: This Prescription Area is protected from human activities and surface disturbance that would cause impacts to cave ecosystems or heritage resources. Protection may include signing, gating, or other physical barriers for caves and rockshelters designated as significant bat caves. Dispersed recreation may occur within the ¼-mile zone, however, selected caves are closed to public entry or have seasonal restrictions. Prescribed fire may occur within the area.

Occasionally, management activities include the use of motorized equipment to construct or maintain roads and trails. Vegetation may be occasionally manipulated to maintain the desired ecosystem condition. Trees damaged or knocked down following unforeseen events such as wildland fire, wind, snow, and insect and disease outbreaks might be removed for public safety or to facilitate restoration consistent with the desired ecosystem condition. Tree felling and removal using

motorized equipment could occur. Fire suppression activities could include the use of heavy equipment to construct firelines, while aircraft may provide detection and suppression support.

Goals and Objectives

1.J-Goal 1. Protect or enhance caves designated as significant for PETS bat species.

1.J-Objective 1.A. Acquire from willing sellers private lands that contain or are adjacent to caves or significant sites known to be hibernacula or maternity sites for PETS bats species.

1.J-Objective 1.B. Generally avoid prescribed burning within five miles of significant Indiana bat hibernacula between September 1 and December 1.

1.J-Objective 1.C. Manage all fires to minimize smoke impact to cave and karst areas and associated species.

Standards

MINERALS

1.J-MIN-1. The surface is not to be disturbed during any federal mineral exploration or development activity; development of federally owned oil and gas is subject to the no surface occupancy stipulation.

RECREATION

1.J-REC-1. Restrict entry to significant colony sites for PETS bat species, where needed, with signs or gates.

1.J-REC-2. Prohibit camping and fire building within 200 feet of an opening to posted colony sites for PETS bat species.

VEGETATION

1.J-VEG-1. Leave existing forest cover undisturbed by management activities unless the activity is designed to improve habitat for PETS and Conservation species.

1.J-VEG-2. Do not permit tree-cutting activities between September 1 and December 1 within five miles of known significant Indiana bat hibernacula.

1.J-VEG-3. Currently suitable roost trees that are 6 inches dbh or greater may be removed without checking for bats only from November 16 through March 15.

1.K. HABITAT DIVERSITY EMPHASIS

Setting

This matrix of diverse habitat unites the Forest landscape. Unless allocated to another Prescription Area, National Forest System land is allocated to the Habitat Diversity Emphasis Prescription Area. It may consist of small to large parcels that may be adjacent to, or possibly surrounded by, other Prescription Areas.

This Prescription Area is currently estimated at approximately 375,900 acres across the DBNF.

Most forest and woodland in this Prescription Area is classified as Suitable for Timber Production (Scheduled Harvest) – Non-timber emphasis (approximately 341,900 acres, non-overlapping). All wooded grassland/shrubland is classified as Unsuitable for Timber Production – Tree cutting, tree removal, or timber harvest may occur on an unscheduled basis to attain Desired Future Conditions. (approximately 18,400 acres).

Desired Future Condition

Emphasis of Condition: This area is managed for the purpose of maintaining biodiversity. Various management techniques are utilized to maintain this area in a variety of habitat conditions, not necessarily supported or found in other Prescription Areas. Planned management considers the type and amounts of habitat conditions created by unplanned disturbance regimes such as wildland fire, severe weather events, and insect or disease epidemics.

Desired Ecosystem Conditions: This Prescription Area consists of a mixture of habitat conditions that provide a desired diversity of communities. The desired diversity includes major plant communities such as mixed mesophytic, upland oak and yellow pine forests, which include American chestnut and non-forest areas such as permanent shrub or grass openings. Diversity of habitats also includes variation in the density and kind of trees within a stand, the kinds and amounts of herbaceous and shrubby plants found under the forest overstory, and the vertical structure within a stand.

Temporary forest openings are created by the removal and/or death of single trees, groups of trees (up to ¼ acre), and/or stands of trees (up to 40 acres). Occasional uncontrolled events such as weather, wildland fire, insects, or disease may result in large areas returning to young age forest habitat. Some permanent openings in grassy, forb or brush condition also are maintained in this Prescription Area. Many of these include some type of pond.

Forest conditions may range from open forest with a sparse overstory of large broad-crowned trees, to closed forest, to dense thickets of young regeneration. A large percentage of the area contains forest with well-developed vertical structure. In these areas, midstory and shrub/saplings layers would be well developed. Oak and other hardwood regeneration is present across the Prescription Area. Yellow pine regeneration, primarily shortleaf and pitch pine, emphasized on the southern portions of the Prescription Area, is also present across the forest. Most terrestrial Management Indicator Species (MIS) are well represented in this area. Invasive non-native species are not present.

Habitats in this area are managed to produce a mosaic of habitat associations. Specific habitat conditions within habitat associations are also managed as a mosaic. Areas of specific habitat conditions may occur as parcels of less than one-quarter acre up to 100 or more acres. In many cases, habitat conditions grade from one to another without clean, sharp edges. In other cases, distinct delineations are likely to occur.

Distinct blocks of this area are managed as fire-adapted communities. Within this category of fire-adapted communities, we recognize those that are fire-influenced and those that are fire-mediated communities. Fire-influenced communities are adapted to limit the frequency and intensity of fires due the nature of vegetation and physical position on the landscape among other factors, but fire still occurs within them. Fire seldom if ever drives compositional and structural change in fire-influenced communities. Fire-mediated communities are adapted to promote fire, but within community specific limits controlled in part by the nature of the vegetation within these communities and the physical position on the landscape they occupy. Fire drives both compositional and structure conditions within the community.

Within these fire-adapted blocks, fire is a dominant tool used to maintain and restore specific structural and compositional habitat conditions. These blocks include both target (i.e., fire-mediated) and non-target (i.e., fire-influenced) habitat associations where fire is desired in the former, and is not necessarily desired but accepted in the latter. It is within these fire emphasis blocks that open, low basal area (BA) oak or southern yellow pine forest with grassy or shrubby ground layers; warm season grasslands; southern yellow pine forests, and many of the moderate basal area oak forests are to be found. These are the target communities. Fire-influenced, high basal area hardwood forests, including mixed mesophytic and northern conifer-hardwood are also found here.

The following is a description of the major communities and desired habitat components that make up the Habitat Diversity Prescription Area. A more detailed breakdown of long-term objectives by Management Area can be found in Appendix C.

Community Descriptions:

Dense Cove Forest¹¹ - High canopy, moderate to high basal area (70-120 or more square feet/acre) forest, some with and some without, well developed vertical structure (includes grass/forb, shrub/sapling, midstory, sub-canopy, and canopy layers): This habitat condition consists of mid to old age (70-300 years) canopy trees with various components of sub-canopy, midstory and shrub layers. This condition will be found primarily in forest types found on east and north lower and mid slopes, or in heavily shaded hollows on any aspect. Although most of this condition will occur associated with mixed mesophytic forest, some will occur with riparian forest and some will transition into dry-mesic upland hardwoods. Approximately 112,800 acres of this existing forest condition is provided.

Mid-density Upland Forest¹² - High canopy, moderate basal area (60-70 square feet/acre) forest, some with and some without, well developed midstory and shrub layers (layers evident and easy to find): This habitat condition consists of mid to old age (50-160 yrs upland, 70-240 yrs cove, lower slope) canopy trees with a dense layer of 4-15 feet shrubs/saplings. While

¹¹ This is “forest” as defined in The Nature Conservancy’s National Vegetation Classification (Grossman et al. 1998): trees with their crowns overlapping (generally forming 60-100% cover).

¹² As defined in the National Vegetation Classification (Grossman et al. 1998).

dominant on upland sites in the oak, yellow pine and mixed forest types, these conditions can occur in most forest types and in most landscape positions. At least 18,800 acres of this forest condition is provided. Depending on forest health needs, more of this condition may occur (see Forestwide Goal 2.1).

Woodland¹³ - High canopy, low-moderate basal area (30-50 square feet/acre) forest with a well developed shrub/grass/forb layer consisting of any or all of the mentioned vegetation forms: This habitat condition consists of mid to old age (50-200 years) canopy trees with thin to dense low shrubs (≤ 3 ft) and or grasses/forbs which are promoted by a regular cycle of burning. A low density (≤ 5 BA) of midstory trees may be present. This set of conditions will be found on upland sites, in hardwood (primarily oak), yellow pine and mixed forest types. It may occur in other forest types and on other landscape positions. Approximately 37,800-50,400 acres of oak-dominated woodland is provided within 30 years. Approximately 12,600-16,800 acres of yellow pine-dominated woodland is provided within 100 years.

Wooded Grassland/Shrubland¹⁴ - High canopy, low basal area (10-29 square feet/acre) forest with a well developed shrub/grass/forb layer: This habitat condition consists of mid to old age (50-160 yrs) canopy trees with thin to dense low shrubs (≤ 3 ft) or grasses/forbs which are promoted by a regular cycle of burning. A low density (5-10 BA) of midstory trees may be present. Approximately 8,700-13,650 acres of oak-dominated wooded grassland/shrubland is developed, within 50 years. Approximately 6,300-8,400 acres of yellow pine-dominated wooded grassland/shrubland is provided within 100 years.

Two-aged or Even-aged Young Forest - Open, low basal area (10-20 square feet/acre) or no canopy, dense seedling/sapling forest: This habitat condition consists of a limited canopy layer of generally mid age trees with dense seedlings and saplings of trees and shrubs. This will primarily occur where forests are regenerated using two-aged or even-aged silviculture. The condition may occur in any forest type on any landscape position but will generally occur in upland oak, yellow pine or mixed oak and yellow pine forest types. Approximately 18,800 acres is available the first decade and provided each following decade in shifting locations.

Non-forest Vegetation - Open, no-canopy, non-forest areas are maintained in warm or cool season grass, old-field or shrubland condition: This habitat condition is non-forest. In most cases, this condition is permanently maintained on specific sites. It may occur associated with any forest type and in any landscape position, but most are expected to be associated with upland positions and forests. Warm season grasslands are primarily found in association with upland oak, yellow pine and mixed forest types. Approximately 1,600 acres of existing openings are maintained.

Ponds - Ponds occur in two primary forms. One is the typical, permanent waterhole, which may range from a few feet to several yards deep and occupy several hundred square feet to a few acres. The other is the ephemeral pond, which is typically shallow (< 2 ft. deep), and seldom occupies over a few thousand square feet. Ponds of either type may occur in any or all of the

¹³ Interpreted from the National Vegetation Classification (Grossman et al. 1998) definition of 25-60% canopy cover, at higher canopy cover end; the Forest Inventory and Analysis (FIA, see Hansen et al.1992) definition of low productivity site is not being used here.

¹⁴ These areas, which have $> 25\%$ canopy cover, fall either into grassland or shrubland in the National Vegetation Classification (Grossman et al.). If grasses are dominant, it is grassland; if shrubs are dominant, it is a shrubland. These areas more or less fit FIA's definition of 'natural rangeland.' *This condition has been called 'savanna', but the term is not used here to avoid confusion with the dry savannas of Africa or the coastal pine flats of the Southeastern U.S.*

above vegetation types, but are most common on upland sites. The distribution of ponds is based on ecological capability and site-specific habitat needs. Direction for location of ponds is found under Forestwide Goal 1.2.

Habitat Components:

Open Midstory – A portion of all forest communities within this prescription, do not have midstories. Approximately 36,000 acres of this forest condition is provided.

Hemlock-White Pine Forest – A portion of the forest communities within this Prescription Area consist of stands containing at least 70 percent softwood, of which the plurality of stocking is hemlock or eastern white pine. Approximately 2,900-3,100 acres of this forest type in various forest conditions is provided.

Conifer Northern Hardwood Forest – A portion of the forest communities within this Prescription Area consist of stands containing 50-70 percent softwood, of which the plurality of stocking is hemlock or eastern white pine. Approximately 2,600-2,800 acres of this forest type in various forest conditions is provided.

Mixed Mesophytic Forest – A portion of the forest communities within this Prescription Area consist of stands containing at least 70 percent mesic hardwoods, of which the plurality is not oak. Approximately 81,000 – 84,000 acres of this forest type in various forest conditions is provided.

Beech Forest – A portion of the forest communities within this Prescription Area consist of stands containing at least 70 percent hardwood, of which the plurality stocking is American beech. Approximately 2,600-2,800 acres of this forest type in various forest conditions is provided.

Dry-Mesic Oak Forest – A portion of the forest communities within this Prescription Area consist of stands containing at least 70 percent hardwood, of which the plurality stocking is oak on dry to mesic sites. Approximately 120,000-160,000 acres of this forest type in various forest conditions is provided.

Dry-Xeric Oak Forest – A portion of the forest communities within this Prescription Area consist of stands containing at least 70 percent hardwood, of which the plurality stocking is oak on dry to xeric sites. Approximately 18,000-22,000 acres of this forest type in various forest conditions is provided.

Yellow-Pine Dominated Forest – A portion of the forest communities within this Prescription Area consist of stands containing at least 50 percent softwood, of which the plurality stocking is southern yellow pine (predominantly shortleaf and pitch pine). Approximately 17,100-22,800 acres of this forest type in various forest conditions is restored within 80 years.

Woodland – A portion of the community types within this Prescription Area consist of stands dominated by yellow-pine or upland oaks in various combinations and pluralities, but in a woodland condition. Approximately 46,000 – 56,650 acres are provided in these forest types and condition within 120 years.

Wooded grassland/shrubland - A portion of the community types within this Prescription Area consist of stands dominated by yellow-pine or upland oaks in various combinations and pluralities, but in a wooded grassland/shrubland condition. Approximately 16,700 – 20,500 acres are provided in these forest types and condition within 120 years.

Desired Facilities and Human Activities: A well-designed and maintained road system provides access for resource protection and management. Interpretive signs are maintained in a number of areas easily reached by visitors to explain past and current activities and events. Well-maintained trails are present that are compatible with habitat conditions. Hunting occurs seasonally. When weather and burning conditions are within prescription, crews routinely burn forest, woodland, and grasslands. Other silvicultural and habitat treatments such as cutting of trees and mowing of openings routinely occurs. Temporary roads and logging decks are built for the removal of forest products. Site preparation for artificial and natural regeneration often includes the use of chainsaws, herbicide, and/or heavy equipment¹⁵.

Goals and Objectives

1.K-Goal 1. Maintain a variety of habitat conditions in the area based on both composition and structure.

- 1.K-Objective 1.A.** Maintain 5 to 6 percent within each 5th level watershed in the 0-10 age class, including the effects of catastrophic events. Site-specific stand conditions will determine timing of harvest. Rotations are expected to normally range between 140 and 190 years. Stands with a predominance of trees that have a shorter life expectancy or are in poor condition should have shorter rotations. Stands with a predominance of trees that have a longer life expectancy and are in good condition should have longer rotations.
- 1.K-Objective 1.B.** Maintain approximately 0.4 percent of each Management Area (1,600 acres total within this Prescription Area) in grassy or old-field openings, generally greater than one-quarter acre, of which about half are warm-season grass dominated.
- 1.K-Objective 1.C.** Maintain thirty percent within each 5th level watershed in a relatively closed canopy forest at least 70 years old with midstory and shrub/sapling layers. One-fourth of the 30 percent should be maintained in blocks¹⁶ of at least 620 acres for interior habitat. Each block can include up to 200 acres from adjacent cliff and riparian areas; up to one-third of each block may be thinned to 60 basal areas.
- 1.K-Objective 1.D.** Maintain five percent within each 5th level watershed in stands thinned to 60-70 basal areas.
- 1.K-Objective 1.E.** Maintain 10 percent within each 5th level watershed in relatively closed-canopy forest at least 60 years old with dense shrub/sapling layer and little to no midstory.
- 1.K-Objective 1.F.** Manage for 2,900-3,100 acres of hemlock-white pine forest within the Prescription Area, primarily in cove and lower slope positions.
- 1.K-Objective 1.G.** Restore upland white pine plantations to hardwood, yellow pine, or mixed forest types where needed to meet other objectives.

¹⁵A more detailed description of vegetation management methods and techniques is found in Appendix H.

¹⁶Service level A and B roads and roads having width exceeding 50', will break up a "block". Up to 5% of the block can be in 0-10 age class or other openings.

- 1.K-Objective 1.H.** Manage for 2,600-2,800 acres of conifer-northern hardwood forest within the Prescription Area.
- 1.K-Objective 1.I.** Manage for 84,000-87,000 acres of mixed mesophytic forest, including beech-dominated forest, within the Prescription Area.
- 1.K-Objective 1.J.** Manage for 2,600 to 2,800 acres of beech-dominated, mixed-mesophytic variant forest within the Prescription Area.
- 1.K-Objective 1.K.** Manage for 120,000-160,000 acres of dry-mesic oak forest within the Prescription Area. (Goal 2 includes these acres.)
- 1.K-Objective 1.L.** Manage for 18,000-22,000 acres of dry-xeric oak forest within in the Prescription Area. (Goal 2 includes these acres.)
- 1.K-Objective 1.M.** Provide a minimum of two pieces of downed wood per acre, at least 12 inches in diameter and 10 feet long, across the Prescription Area. Diameter is measured at the midpoint of the largest 10-foot section.
- 1.K-Objective 1.N.** During the creation and maintenance of woodlands in which overstory cutting occurs, create, or retain when available, a minimum of one snag per acre of at least 16 inch dbh (larger where possible).
- 1.K-Goal 2.** Develop and maintain 120,000 to 160,000 acres of yellow pine and oak forest, woodland, and wooded grassland/shrubland in various mixtures of species and habitat within a fire-mediated system.
- 1.K-Objective 2.A.** Manage distinct blocks, ranging from 500-25,000 acres in size as fire-influenced¹⁷ or fire-mediated¹⁸ communities.
- 1.K-Objective 2.B.** Establish and maintain 85 to 115 acres of yellow pine and yellow pine-hardwood wooded grassland/shrubland in the Cumberland River Management Area during the first decade.

Pine/Grassland/Shrubland (acres)

Management Area	Decade 1
Licking River	0
Middle Kentucky River	0
Upper Kentucky River	0
Cumberland River	85-115
Total	85-115

¹⁷ Fire-influenced here means a community in which fire occurs, but at low intensity and or frequency, and when this fire affects vegetation, the effects are generally expected to be small, and not an important contributor to community composition and structure. These are non-target communities.

¹⁸ Fire-mediated here means a community in which fire occurs and in which fire is expected to drive community composition and structure. These are target communities.

1.K-Objective 2.C. Establish and develop 430 to 570 acres of yellow pine and yellow pine-hardwood woodland in the Cumberland River Management Area in the first decade.

Pine Woodland (acres)

Management Area	Decade 1
Licking River	0
Middle Kentucky River	0
Upper Kentucky River	0
Cumberland River	90-110
Total	90-110

1.K-Objective 2.D. Establish¹⁹ 7,030 to 9,370 acres of yellow pine and yellow pine-hardwood on sites decimated by the southern pine beetle epidemic of 1999-2000, during the planning period for forest, woodland, and wooded grassland/shrubland within Management Areas based on the following:

Pine Restoration/Maintenance (acres)

Management Area	Decade 1
Licking River	685-915
Middle Kentucky River	1,030-1,370
Upper Kentucky River	345-455
Cumberland River	4,970-6,630
Total	7,030-9,370

1.K-Objective 2.E. Establish and maintain 600 to 730 acres of hardwood and hardwood-yellow pine wooded grassland/shrubland in the 1st decade. This should be developed within management areas on both dry-mesic and dry-xeric sites based on the following:

Hardwood/Grassland/Shrubland (acres)

Management Area	Decade 1
Licking River	90-110
Middle Kentucky River	90-110
Upper Kentucky River	150-180
Cumberland River	270-330
Total	600-730

¹⁹ The objective is to restore areas that were pine and pine-hardwood, prior to the southern pine beetle epidemic. Any pine stands remaining, that meet the new desired condition for forest, woodland or wooded grassland will be considered restored when stand inventory indicates adequate stocking for the condition desired.

1.K-Objective 2.F. Establish and maintain 5,320 to 6,970 acres of hardwood and hardwood-yellow pine woodland in the 1st decade. This should be developed within management areas on both dry-mesic and dry-xeric sites based on the following:

Hardwood Woodland (acres)

Management Area	Decade 1
Licking River	800-1045
Middle Kentucky River	800-1045
Upper Kentucky River	1,330-1,745
Cumberland River	2,390-3,135
Total	5,320-6,970

1.K-Objective 2.G. Maintain with fire, 31,500 to 42,000 acres in upland oak and upland oak-yellow pine forest. This should be developed on both dry-mesic and dry-xeric sites.

1.K-Goal 3. For projects that will increase the production, transmission or conservation of energy, evaluate Federal mineral project proposals in a timely manner while addressing safety, public health, and environmental protection considerations.

Standards

RECREATION

1.K-REC-1. Areas will be managed to meet or exceed Recreation Opportunity Spectrum experiences of semi-primitive non-motorized, semi-primitive motorized, roaded natural, and rural.

VEGETATION

1.K-VEG-1. When 9 inch dbh snags are not available or cannot be created to meet a minimum of 3 snags per acre, snags of at least 6 inches dbh may be retained or created to provide snag habitat.

1M. CUSTODIAL AREA

Setting

Unless allocated to another Prescription Area, National Forest System land is allocated to the Custodial Prescription Area. It may consist of small to large parcels that may be adjacent to, or possibly surrounded by, other Prescription Areas.

This Prescription Area is currently estimated at approximately 395,200 acres across the DBNF.

This Prescription Area has 70,000 acres classified as Suitable for Timber Production (Scheduled Harvest) – Non-timber emphasis to insure minimum viability within the DBNF. The remainder is Unsuitable for Timber Production – Timber Harvest is not allowed.

Desired Future Condition

Emphasis of Condition: This is an area where the natural interactions of organisms with each other and with their environment (ecological processes) continue with a minimum of direct human influence. Characteristics of the forest environment are affected primarily by natural disturbance factors such as insects, disease, fire, and weather. Existing recreational facilities are maintained and human health and safety is protected. Occasional vegetation and fire management is undertaken to meet minimum legal requirements.

Desired Ecosystem Condition: Late-successional forests dominate this area. Natural processes such as flooding, ice storms or windstorms, insect and disease outbreaks, and fires are the primary influences to vegetation. Small gaps and occasional large openings of early successional habitat are created through natural disturbance. Standing snags and down woody material, the result of baseline mortality, are common in this area. Natural succession eventually results in a forest of predominantly shade-tolerant vegetation ranging from chestnut oak on xeric sites to sugar maple, red maple, American beech, and white pine and hemlock on moister sites. Old-growth forest communities of all sizes exist. Those stands that have been set back in development due to natural stand-replacing disturbances are progressing again toward an old-growth condition.

Some rare communities and associated species as well as threatened, endangered, sensitive, and locally rare species are abundant; others exist in minimal populations. When needed, a disturbance-related habitat condition is artificially created to provide for minimum viability of species to meet legal requirements. Timber may occasionally be produced as a by-product of such activity.

Desired Facilities and Activities: This area provides moderate to large tracts of non-motorized, backcountry recreational opportunities. Outdoor skills are important for visitors in the more remote portions of these areas. Hiking, backpacking, dispersed camping, hunting, and fishing are typical recreational activities. Visitors who travel away from roads and developed campgrounds see little evidence of human disturbance with the exception of trail maintenance and some vegetation manipulation.

Some artificial vegetation disturbance may occur to maintain required minimum species viability or to maintain habitat for threatened, endangered, sensitive, or locally rare species. Timber may occasionally be produced as a by-product of such disturbance. Fire may occasionally be noticed in

the woods, especially during the spring and fall. Development of outstanding and reserved minerals may occur.

Goals and Objectives:

1.M-Goal 1. Maintain this area of the Forest in a natural condition, with minimal human influence.

1.M-Objective 1.A. Decommission and obliterate temporary as well as system roads not needed for resource protection or recreation; bring up to standard or relocate those that adversely affect surrounding resource values and conditions.

1.M-Goal 2. Maintain and restore existing recreational facilities.

1.M-Objective 1.B. Recreation opportunity spectrum (ROS) include: RN1, RN2, SPM, and SPNM. Scenic integrity levels range from “very high” to “high.”

Standards

MINERAL OPERATIONS

1.M-MIN-1. Minerals are available for lease only under the controlled-surface use stipulation. Federal mineral development will be allowed only for purposes of national security or national policy.

RECREATION

1.M-REC-1. This area is closed to OHV use.

ROADS/ENGINEERING

1.M-ENG-1. Road construction may only occur where road relocation would better protect resources.

VEGETATION MANAGEMENT

1.M-VEG-1. Insect and disease outbreaks and invasive pests will be controlled where threatened, endangered, proposed, sensitive, or locally rare species and their habitats are likely to be harmed; to prevent damage to resources on adjacent land; or where needed for safety or legal purposes. Biological methods of control should be used where available and effective.

1.M-VEG-2. Eradication of recently established non-native pests would be attempted. Biological control of established non-native pests through the release of natural enemies should be used where available and effective.

1.M-VEG-3. This land is classified as unsuitable for timber production. Timber may be salvaged after catastrophe, or otherwise cut and/or removed only if needed for safety or legal reasons.

- 1.M-VEG-4. DENSE UNDERSTORY.** Provide 19 blocks, minimum 110 acres each, distributed across all MAs, with the following locations and conditions: 40-60 percent of the block will contain dense hardwood understory, either with or without high canopy forest on damp, mesic slopes, preferably adjacent to the riparian-aquatic prescription area. (Kentucky warbler, American redstart in part)
- 1.M-VEG-5. PINE AND/OR HEMLOCK.** Maintain at least 100 stands containing predominantly mature (80+ years) yellow pine and/or hemlock, minimum 15 acres each, distributed across all management areas. (sharp-shinned hawk- breeding habitat)
- 1.M-VEG-6. PINE WOODLAND AND WOODED GRASSLAND/SHRUBLAND.** Provide 100 blocks, minimum 19 acres each (50 blocks, 38 acres each is preferred), distributed across all management areas (MAs), but with emphasis in the Cumberland and Middle Kentucky MAs, in the following habitat conditions: open to semi-open canopy (30-50 BA) with areas of little to no canopy (0-25 BA) in primarily southern yellow pine forest type, but can include dry-mesic pine-oak, dry-xeric pine-oak, dry-mesic oak, and dry-xeric oak forest types, with little to no midstory, but with areas of shrubs and generally grassy (warm season) herb layer; prescribed fire is beneficial. In addition, other included or adjacent grassland or old fields are likely to provide additional habitat (northern bobwhite quail, field sparrow, prairie warbler, Bachman's sparrow, yellow-throated warbler).
- 1.M-VEG-7. HARDWOOD WOODLAND.** Maintain eight blocks, minimum 25 acres each, in the Upper Kentucky MA with the following conditions: mixed mesophytic and dry-mesic oak forest (at least age 50) with open canopy (30-50 BA), midstory, shrub layers, mixed with openings and forest edge. Use prescribed burning to maintain habitat and promote flowering at known locations of Wasioto rosinweed.
- 1.M-VEG-8. MATURE FOREST, OPEN UNDERSTORY.** Maintain at least 100 blocks, minimum 20 acres each, in the following condition: mature (80+ years old) mixed mesophytic, oak-pine and upland oak with open midstory/shrub layers; with scattered pockets (up to 1 acre) of 40-80 BA and burned areas. Maintain corridors between tracts using cliff zones or riparian zones (yellow-throated vireo).
- 1.M-VEG-9. THINNED FOREST.** Provide at least seven tracts, approximately 250 acres each, distributed in all MAs, but with emphasis in the Cumberland River MA, in the following habitat conditions: semi-open canopy (around 60-70 BA), relatively dry, mature forest >80 years old (20 percent may be 0-80 year-old forest), preferentially dry-mesic pine-oak and dry-xeric pine-oak forest types (dry-mesic oak and dry xeric oak acceptable), with open midstory and shrub layers, in which burning and/or midstory treatments have occurred. Provide at least 15 snags/10 acres >14 inches dbh, where available. Include approximately 5 percent of each block in permanent grassy/low shrub openings (at least two, minimum one acre) (summer tanager, red-headed woodpecker, yellow-throated vireo, eastern wood pewee, northern flicker, Chuck-will's widow).
- 1.M-VEG-10. WOODLAND AND WOODED GRASSLAND/ SHRUBLAND.** Provide at least 67 blocks distributed in all MAs (minimum 30 blocks total in Cumberland MA and 15 in Middle Kentucky MA), approximately 45 acres each, in the following habitat conditions: dry, mature (70-80 years +) forest (preferentially dry-mesic pine-oak and dry-xeric pine-oak, but dry-mesic oak and dry xeric oak and general forest acceptable) with semi-open to open

canopy (around 40-50 BA woodland) with open midstory and shrub layers, with at least 15 (>14 inches dbh) snags/10 acres. Approximately 20 percent of each block will be maintained in a combination of grassy openings and wooded grassland/shrubland. Burn blocks to maintain grassy/low shrub conditions (red-headed woodpecker, yellow-throated vireo, eastern wood pewee, northern flicker, summer tanager, chipping sparrow, Chuck-will's widow, prairie warbler).

- 1.M-VEG-11. SMALL MOIST GRASSY OPENINGS.** Provide at least 100 generally forested blocks, minimum 12 acres each, distributed in all MAs. Each block will have one to two acres of openings. Each opening will contain the following habitat at least one-quarter acre in size: open ground, all with moist, poorly drained soils, considering areas such as bare ground, old fields, cultivated land, pastures, grassy openings, and one- to three-year-old regeneration areas on both National Forest and other ownerships. Needs edge habitat containing high shrub density areas and areas providing partial to wet thickets along meandering streams or swampy ground are preferred (American woodcock).
- 1.M-VEG-12. SHRUB-SAPLING OPENINGS.** Provide at least 700 acres, in 50-100 blocks, seven acres each, (blocks may be clustered) in the following conditions: dense cover of shrubs and or hardwood saplings (50-100 percent hardwood.) with little to no canopy (0-20 BA of trees >2.0 inches dbh), includes dense brushy openings with approximately equal distribution across all MAs, but at least ten blocks each in the Upper Kentucky MA and the Jellico Mountains area of the Cumberland MA. These blocks will be fixed areas (yellow-breasted chat, goldenwing warbler, in part).
- 1.M-VEG-13. PINE FOREST, MIXED AGE.** Provide at least 100 blocks, minimum 330 acres each, distributed in the Licking MA (five blocks), in the Middle Kentucky MA (30 blocks), and the Cumberland MA (65 blocks), in predominantly forested land of which one-half is mature (80+ years) dry-mesic pine-oak, dry-xeric pine-oak and/or southern yellow pine (30-100 percent pine component) with open canopy (60 –70 BA) and little to no midstory. Include at least 20 acres of woodland in conjunction with five acres of savanna and five acres of warm season grassy openings in 50 of the blocks. Must include pines >20 inches dbh. (sharp-shinned hawk – foraging habitat, yellow-throated warbler, northern bobwhite quail, field sparrow).
- 1.M-VEG-14. GRASSY OPENINGS.** Provide at least 100 blocks, of minimum seven acres each, distributed in all Management Areas, in predominantly grass cover. At least half of the blocks are to be warm season grass (field sparrow; northern bobwhite quail, prairie warbler in part).

FIRE MANAGEMENT

- 1.M-FIRE-1.** Prescribed fire is not to be used as a management tool unless needed for safety or legal reasons such as maintenance of species viability, management of threatened or endangered species, or to control non-native pests.
- 1.M-FIRE-2.** Naturally occurring wildland fire is not to be suppressed unless it threatens private land, infrastructure, or habitat for species whose continued viability is concern. A burn plan must also be prepared in advance of ignition.

2.A. CLIFTY WILDERNESS

Setting

This Prescription Area, congressionally designated under the authority of the Kentucky Wilderness Act of 1985, consists of approximately 12,000 acres within the Middle Kentucky River Management Area.

This Prescription Area is Unsuitable for Timber Production – Timber harvest not allowed.

Desired Future Condition

Emphasis of Condition: This is a primitive place where natural ecological succession is allowed to operate freely to the extent feasible. Little evidence of human activity can be detected. Congress has designated this area as a place where humans influence nature as little as possible.

Desired Ecosystem Conditions: Mostly late-successional and old-growth forests characterize the area including many areas of white pine and hemlock. Naturally occurring openings are available as early successional habitat. Natural ecological conditions and processes prevail. The forest conditions meet habitat requirements for species requiring dense forest cover and downed woody debris, as well as for area-sensitive interior species. Fish and aquatic populations remain relatively stable.

Desired Facilities and Human Activities: This area is managed toward a Primitive Recreation Opportunity Spectrum (ROS) experience. Facilities are not desired here. Dispersed recreation occurs, but evidence of other humans is not easily detected. An occasional visitor might be found hiking, hunting, fishing, or camping. There are a few primitive trails, maintained primarily to disperse use and minimize user impacts, not for visitor convenience.

Goals and Objectives

2.A-Goal 1. Allow natural processes to proceed while managing visitor use at a level compatible with the Wilderness resource without loss of solitude or unacceptable depreciation of Wilderness qualities.

2.A-Objective 1.A. Natural processes will be relied upon to recover degraded Wilderness resources unless damage will continue, without intervention.

2.A-Objective 1.B. Develop a fire management plan that would allow fire to play, as nearly as possible, its natural ecological role, under documented, preplanned, specified conditions; while allowing for suppression of any fire that threatens Wilderness resources, threatens life or property, or poses a threat to human health and safety.

2.A-Goal 2. Provide opportunities for primitive, dispersed recreation featuring the “naturalness” of the environment, solitude, physical and mental challenge, and inspiration that is consistent with preservation of the Wilderness resource.

2.A-Objective 2.A. Manage the social and managerial setting for primitive recreation opportunity spectrum experiences that provide a high degree of solitude, self-reliance and challenge.

2.A-Objective 2.B. Manage the area to maintain Scenic Integrity of Very High.

2.A-Objective 2.C. Provide resources and information to visitors entering the Wilderness so they have “wilderness awareness” and practice a “leave no trace” ethic. They should understand that:

- a) Wilderness is primitive and rugged
- b) Outdoor skills are necessary for using wilderness
- c) They have a responsibility for their own safety
- d) They will need to leave the wilderness as they found it.

2.A-Objective 2.D. Complete the Limits of Acceptable Change process with public input.

2.A-Objective 2.E. Design and manage the trail system consistent with Wilderness objectives for solitude, physical and mental challenge, spirit of adventure, and self-reliance. Trail design will control the level of public use. Long-distance trails, which pass through the Wilderness, such as the Sheltowee Trace National Recreation Trail, will be consistent with Wilderness management trail guidelines.

2.A-Goal 3. Designate camping areas when needed to minimize environmental impacts.

2.A-Goal 4. Maintain a close relationship with all state, county, and local agencies to provide a common understanding of Wilderness purpose and values to the area.

2.A-Objective 4.A. Continue to coordinate law enforcement search and rescue efforts with Kentucky State Police, local sheriffs’ departments, Kentucky Department of Fish and Wildlife Resources, other local officials and entities. Strengthen the cooperators’ role.

2.A-Objective 4.B. Work with state and federal air regulatory agencies to achieve the protection appropriate for this Class II Wilderness area.

2.A-Goal 5. Facilitate scientific study that is dependent on a natural setting: a) that seeks to explain wilderness phenomena; and b) which is conducted in an unobtrusive manner consistent with the preservation of the Wilderness resource.

2.A-Goal 6. Achieve a consolidated pattern of National Forest System land and/or mineral ownership that facilitates management of the Wilderness area without infringing on the rights of private owners. Acquire private in-holdings or interests as they become available to better manage the area as wilderness.

2.A-Objective 6.A. Subject to valid existing rights, existing access routes to private in-holdings and cemeteries will be brought under the necessary permit and closed to unauthorized use.

2.A-Goal 7. Remove those sites or structures that do not qualify for the National Register of Historic Places or allow them to deteriorate naturally, unless they are deemed necessary to support wilderness or for administrative purposes outlined in Section 4 (c) of the Wilderness Act.

2.A-Goal 8. Provide protection for known PETS species populations and aid recovery of habitat and populations in areas of their previous habitation.

Standards

LANDS

2.A-LAND-1. Allow no special uses that are inappropriate for the wilderness setting.

MINERALS

2.A-MIN-1. Subject to valid rights effective prior to wilderness designation, all federal minerals in wilderness areas are withdrawn from leasing.

2.A-MIN-2. Surface mitigating measures will be implemented in the development of privately owned minerals.

ROAD/ENGINEERING

2.A-ENG-1. Road closures will use permanent closure methods that appear natural, using such methods as boulder placement, slope restoration, etc. Closed roads will be naturally revegetated. If the area is not expected to revegetate naturally in a reasonable time, revegetate area using native species only.

2.A-ENG-2. The use of motorized equipment is not allowed unless approved by the appropriate Forest Service Line Officer within their delegated authority.

RECREATION

2.A-REC-1. Allow no horses or other livestock in this area except on trails designated for such use or as specifically permitted.

2.A-REC-2. Regulation, including designating primitive campsites, will be used only to control the adverse physical and social impacts of human use. Utilize a permit system only when Limits of Acceptable Change standards are exceeded and cannot be met through less restrictive techniques.

2.A-REC-3. Camping is not permitted within 100 feet of the base of any cliff or the back of any rockshelter, unless at a designated site.

2.A-REC-4. No campfire or stove fire is permitted within 100 feet of the base of a cliff, or the back of any rockshelter, unless at a designated site.

2.A-REC-5. No new rock climbing routes with fixed anchors are allowed. However, maintenance or replacement of existing approved fixed anchors is allowed by non-mechanized means.

2.A-REC-6. Upon completion of Limits of Acceptable Change process, outfitter/guiding will be permitted based on the LAC analysis.

2.A-REC-7. Forest Supervisor approval is required for all research projects.

2.A-REC-8. Until the limits of acceptable change process is completed, limit the size of groups to no more than 10 people. Groups over 10 may be allowed only under permit on a case-by-case basis when compatible with Wilderness management objectives.

2.A-REC-9. Mark research plots in an inconspicuous manner not visually evident to the average user.

VEGETATION

2.A-VEG-1. Do not control insect or disease outbreaks unless necessary to prevent unacceptable damage to resources on adjacent lands, or to prevent an unacceptable loss to the wilderness resource due to non-native invasive pests.

2.A-VEG-2. Collection of non-timber forest products in the Clifty Wilderness area is allowed only for scientific purposes, with Forest Supervisor approval.

WILDLAND FIRE

2.A-FIRE-1. Allow the use of aircraft for wildland fire detection, but not for suppression unless approved by the Forest Supervisor on a case-by-case basis.

2.A-FIRE-2. Mechanized or motorized equipment will not be used for wildland fire suppression efforts unless approved by the Regional Forester or Forest Supervisor within their delegated authority.

2.A-FIRE-3. Do not permit emergency burned area rehabilitation unless necessary to prevent an unnatural loss of the wilderness resource or to protect life, property and other resource values outside of the wilderness.

2.A-FIRE-4. Do not use prescribed fire for the primary purpose of benefiting wildlife, maintain vegetative types or enhance other resource values.

2.B. BEAVER CREEK WILDERNESS

Setting

This Prescription Area, which is congressionally designated under the authority of the Eastern Wilderness Act of 1975, consists of approximately 5,000 acres within the Cumberland River Management Area.

This Prescription Area is Unsuitable for Timber Production – Timber harvest not allowed.

Desired Future Condition

Emphasis of Condition: This is a primitive place where natural ecological succession is allowed to operate freely to the extent feasible. Little evidence of human activity can be detected. Congress has designated this area as a place where humans influence nature as little as possible.

Desired Ecosystem Conditions: Mostly late-successional and old-growth forests characterize the area. Naturally occurring openings are available as early successional habitat. Natural ecological conditions and processes prevail. The forest conditions meet habitat requirements for species requiring dense forest cover and downed woody debris, as well as for area-sensitive interior species. Fish and aquatic populations remain relatively stable.

Desired Facilities and Human Activities: This area is managed toward a Primitive Recreation Opportunity Spectrum (ROS) experience. Facilities are not desired here. Dispersed recreation occurs, but evidence of other humans is not easily detected. An occasional visitor might be found hiking, hunting, fishing, or camping. There are a few primitive trails, maintained primarily to disperse use and minimize user impacts, not for visitor convenience.

Goals and Objectives

2.B-Goal 1. Allow natural processes to proceed while managing visitor use at a level compatible with the wilderness resource without loss of solitude or unacceptable depreciation of wilderness qualities.

2.B-Objective 1.A. Natural processes will be relied upon to recover degraded wilderness resources unless damage will continue, without intervention.

2.B-Objective 1.B. Develop a fire management plan that would allow fire to play, as nearly as possible, its natural ecological role, under documented, preplanned, specified conditions; while allowing for suppression of any fire that threatens Wilderness resources, threatens life or property, or poses a threat to human health and safety.

2.B-Goal 2. Provide opportunities for primitive, dispersed recreation featuring the “naturalness” of the environment, solitude, physical and mental challenge, and inspiration that is consistent with preservation of the Wilderness resource.

2.B-Objective 2.A. Manage the social and managerial setting for primitive recreation opportunity spectrum experiences that provide a high degree of solitude, self-reliance and challenge.

2.B-Objective 2.B. Manage the area to maintain a Very High level of Scenic Integrity.

2.B-Objective 2.C. Provide resources and information to visitors entering the Wilderness so they have “wilderness awareness” and practice a “leave no trace” ethic. They should understand that:

- a) Wilderness is primitive and rugged
- b) Outdoor skills are necessary for using wilderness
- c) They have a responsibility for their own safety
- d) They will need to leave the wilderness as they found it.

2.B-Objective 2.D. Design and manage the trail system consistent with Wilderness objectives for solitude, physical and mental challenge, spirit of adventure, and self-reliance. Trail design will control the level of public use. Long-distance trails, which pass through the Wilderness, such as the Shelton Trace National Recreation Trail, will be consistent with Wilderness management trail guidelines.

2.B-Goal 3. Designate camping areas when needed to minimize environmental impacts.

2.B-Goal 4. Maintain a close relationship with all state, county, and local agencies to provide a common understanding of Wilderness purpose and values to the area.

2.B-Objective 4.A. Continue to coordinate law enforcement search and rescue efforts with Kentucky State Police, local sheriffs’ departments, Kentucky Department of Fish and Wildlife Resources, other local officials and entities. Strengthen the cooperators’ role.

2.B-Objective 4.B. Work with state and federal air regulatory agencies to achieve the protection appropriate for this Class II Wilderness area.

2.B-Goal 5. Facilitate scientific study that is dependent on a natural setting: a) that seeks to explain wilderness phenomena; and b) which is conducted in an unobtrusive manner consistent with the preservation of the wilderness resource.

2.B-Goal 6. Achieve a consolidated pattern of National Forest System land and/or mineral ownership that facilitates management of the Wilderness area without infringing on the rights of private owners. Acquire private in-holdings or interests as they become available to better manage the area as wilderness.

2.B-Objective 6.A. Subject to valid existing rights, existing access routes to private in-holdings and cemeteries will be brought under the necessary permit and closed to unauthorized use.

2.B-Goal 7. Remove sites or structures that do not qualify for the National Register of Historic Places or allow them to deteriorate naturally, unless they are deemed necessary to support wilderness or for administrative purposes as outlined in Section 4(c) of the Wilderness Act.

2.B-Goal 8. Provide protection for known PETS species populations and aid recovery of habitat and populations in areas of their previous habitation.

Standards

LANDS

2.B-LAND-1. Allow no special uses that are not in keeping with the wilderness setting.

MINERALS

2.B-MIN-1. Subject to valid rights effective prior to wilderness designation, all federal minerals in wilderness areas are withdrawn from leasing.

2.B-MIN-2. Surface mitigating measures will be implemented in the development of privately owned minerals.

ROADS/ENGINEERING

2.B-ENG-1. Road closures will use permanent closure methods that appear natural, using such methods as boulder placement, slope restoration, etc. Closed roads will be naturally revegetated. If the area is not expected to revegetate naturally in a reasonable time, revegetate area using native species only.

2.B-ENG-2. The use of motorized ground vehicles is not allowed unless approved by the appropriate Forest Service Line Officer within their delegated authority.

RECREATION

2.B-REC-1. Allow no horses or other livestock except on trails designated for such use, or as specifically permitted.

2.B-REC-2. Regulation, including designating primitive campsites, will be used only to control the adverse physical and social impacts of human use.

2.B-REC-3. Camping is not permitted within 100 feet of the base of any cliff or the back of any rockshelter, unless at a designated site.

2.B-REC-4. No campfire or stove fire is permitted within 100 feet of the base of a cliff, or the back of any rockshelter, unless at a designated site.

2.B-REC-5. No new rock climbing routes with fixed anchors are allowed. However, maintenance or replacement of existing approved fixed anchors is allowed by non-mechanized means.

2.B-REC-6. Forest Supervisor approval is required for all research projects.

2.B-REC-7. Until the limits of acceptable change process is completed, limit the size of groups to no more than 10 people. Groups over 10 may be allowed only under permit on a case-by-case basis when compatible with Wilderness management objectives.

2.B-REC-8. Mark research plots in an inconspicuous manner not visually evident to the average user.

VEGETATION

- 2.B-VEG-1.** Do not control insect or disease outbreaks unless necessary to prevent unacceptable damage to resources on adjacent lands, or to prevent an unnatural loss to the Wilderness resource due to non-native invasive pests.
- 2.B-VEG-2.** Collection of non-timber forest products in the Beaver Creek Wilderness area is allowed only for scientific purposes, with Forest Supervisor approval.

WILDLAND FIRE

- 2.B-FIRE-1.** Allow the use of aircraft for wildland fire detection, but not for suppression unless approved by the Forest Supervisor on a case-by-case basis.
- 2.B-FIRE-2.** Mechanized or motorized equipment will not be used for wildland fire suppression efforts unless approved by the Regional Forester or Forest Supervisor within their delegated authority.
- 2.B-FIRE-3.** Do not permit emergency burned area rehabilitation unless necessary to prevent an unnatural loss of the Wilderness resource or to protect life, property and other resource values outside of the Wilderness.
- 2.B-FIRE-4.** Do not use prescribed fire for the primary purpose of benefiting wildlife, maintain vegetative types or enhance other resource values.

2.C. WILDERNESS STUDY AREA

Setting

Wolfpen Inventoried Roadless Area is on the western edge of Clifty Wilderness.

The Wolfpen Inventoried Roadless Area consists of 2,834 acres.

This Prescription Area is Unsuitable for Timber Production – Timber harvest not allowed.

Desired Future Condition

Emphasis of Condition: This is a primitive place, exhibiting “old-growth” conditions, with many large trees, snags and rotting deadfalls. Little evidence of humans can be detected.

Desired Ecosystem Conditions: Mostly late-successional and older forests characterize the area. Naturally occurring openings are available as early successional habitat but are uncommon. Natural ecological conditions and processes prevail. The forest conditions meet habitat requirements for species requiring dense forest cover and downed woody debris, as well as for area-sensitive interior species. Fish and aquatic populations remain relatively stable.

Desired Facilities and Human Activities: This area is managed to provide “primitive” recreational opportunities. Additional Facilities are absent. Dispersed recreation occurs, but evidence of other humans is not easily detected. An occasional visitor might be found hiking, hunting, fishing or camping. There are a few primitive trails, maintained primarily to disperse use and minimize user impacts. Existing private access roads are maintained to provide existing access with a minimum impact on the land.

Goals and Objectives

2.C. Goal 1. Follow the Goals, Objectives and Standards of Prescription 3E for Wolfpen Roadless Area adjacent to the Clifty Wilderness and 1C, 1E, 1G, 1I, 1J, 1K as they apply for all other areas except: Allow natural processes to proceed while managing activities and visitor use, without loss of solitude or depreciation of wilderness qualities.

2.C. Goal 2. Provide opportunities for primitive, dispersed recreation featuring the “naturalness” of the environment, solitude, physical and mental challenge, and inspiration that is consistent with preservation of the wilderness characteristics.

3.A. DEVELOPED RECREATION AREAS

Setting

This Prescription Area, found in all Management Areas, is estimated at approximately 3,700 acres across the DBNF.

This Prescription Area is Unsuitable for Timber Production – Tree cutting, tree removal, or timber harvest may occur on an unscheduled basis to attain Desired Future Conditions.

Desired Future Condition

Emphasis of Condition: These areas contain facilities, services, and settings designed for human activities that do not exceed site capability but provide at least a minimum level of human needs. These facilities include campgrounds, picnic areas, boat ramps, interpretive sites, overlooks, swimming areas, and trailheads. Management emphasis is placed on services and facilities that fill market niches best provided by the National Forest. Cost-effective operation of facilities is a major, but not the only consideration. Facilities that provide little public service for the operating and maintenance costs involved are considered for closure, change in operations, or redesigned. While some recreation areas may have modifications to handle large numbers of people and provide desired amenities, these areas retain the sense of a natural environment and aesthetically blend with their surroundings. Visitors feel comfortable bringing their entire family to participate in appropriate site activities. These sites serve as “gateways” to the wide diversity of recreational opportunities on the remainder of the Forest.

Desired Ecosystem Conditions: These areas have facilities that are generally shaded and screened by various tree and shrub species. The surrounding forested transition provides for esthetic values. Within these surrounding areas, a variety of wildlife and plants are available for viewing or study. Rare communities of plants and animals are not normally found in these areas, but are protected where they occur.

Desired Facilities and Human Activities: Facilities are designed to fit the landscape based upon site activity type and capacity. They provide for minimal human needs in addition to safety and security. Based upon the characteristics of the land as well as intended uses, sites are available for use by visitors with disabilities.

Each site is designed to support specific activities appropriate to the area. Sites are designed and managed to encourage positive human interaction as well as interaction between humans and the environment. Human activity is concentrated at sites designed to reduce impacts to the environment. Vegetation management is used primarily to maintain the health of trees and shrubs, to maintain the shade and air circulation necessary to enhance the recreation experience, and to ensure visitor safety.

These facilities are managed for one of the following four²⁰ development levels of the Recreation Opportunity Spectrum (ROS) experiences:

Development Level 5: Highly developed sites provide experiences expected in a more “urban” forest setting. Numerous facilities of mostly non-native materials and very refined design can be expected. Convenience facilities are prevalent, including showers, flush toilets, paved roads and trails, entrance stations, playgrounds, beaches, and recreation vehicle hookups. Paved, striped roads access facilities. The Experiences best representing this level is Urban.

Development Level 4: Heavily developed sites provide experiences expected in a rural-urban interface area. Access is by double-lane gravel or paved roads. Some complex facilities with some non-native but harmonious materials are present. Many convenience facilities such as flush toilets, lighting, and piped-in water may be available. Moderate to heavy site modification occurs. The Experiences best representing this level are either Urban or Rural.

Development Level 3: Moderately developed recreation areas provide experiences expected in a more rustic setting. Some privacy is expected. Gravel roads capable of accommodating conventional motorized vehicles including sedans with trailers, and smaller motor homes, provide access. Facilities are developed for protection of the site as well as for user convenience. These may include vault or chemical toilets, graveled site pads, picnic tables, and grills or fire rings. The Experiences best representing this level are Roaded Modified or Roaded Natural.

Development Level 2: Minimally developed recreation sites offer an opportunity for solitude, tranquility, and closeness to nature. These sites offer visitors a higher degree of self-reliance, challenge, and risk. There is normally a low concentration of users in this area. Vegetative alterations, very small in size and number, are primarily for public safety. They are widely dispersed and blend with the natural vegetation. Minimal site modification is required for the limited facilities as well as for safety and resource protection. Facilities are normally constructed from native-appearing, rustic materials. The Experiences best representing this level are Roaded Natural or Semi-Primitive Motorized.

Goals and Objectives

3.A-Goal 1. Provide areas that are safe, cost-effective to operate, and meet the target market population’s needs that are best served on National Forest System lands.

3.A-Objective 1.A. Through collection and analysis of pertinent data develop a core mission/niche for the Forest’s recreation program to guide planning and development.

3.A-Objective 1.B. Apply business principles to ensure sustainable developed recreation services and facilities with measurable performance standards.

²⁰ Development Level 1, Dispersed Sites with Minimum Site Modification, are not inventoried as developed recreation sites.

3.A-Goal 2. Assign each facility a development level and associated Experiences. Design and operate in compliance with the assigned development level and Experiences in a safe, cost-effective manner.

3.A-Objective 2.A. Develop annual district-level operations and maintenance plans for developed recreation facilities. These should include annual monitoring and mitigation of any health or safety problems.

3.A-Goal 3. Use developed recreation areas as an opportunity to provide conservation education and interpretive programs.

Standards

LANDS

3.A-LAND-1. Non-recreation special uses are not to be permitted in these areas unless they are for the purpose of serving the public in ways appropriate for these areas, or to serve some other Forest Service objective.

MINERALS

3.A-MIN-1. The surface is not to be disturbed during any federal mineral exploration or development activity; development of federally owned oil and gas is subject to the no surface occupancy stipulation.

RECREATION/SCENERY

3.A-REC-1. Areas will be managed to meet or exceed Recreation Opportunity Spectrum experiences of semi-primitive non-motorized, semi-primitive motorized, roaded natural and rural.

VEGETATION

3.A-VEG-1. Collection of non-timber forest products is not allowed, except for scientific purposes.

3.B. LARGE RESERVOIRS

Setting

This Prescription Area consists of the water surface at summer pool, and a 300-foot wide zone inland from the water's edge at summer pool, of the entire National Forest shoreline of Cave Run Lake, Laurel River Lake and Lake Cumberland.

This Prescription area consists of 30,600 acres in the Cumberland River and Licking River Management Areas.

This Prescription Area is Unsuitable for Timber Production – Tree cutting, tree removal, or timber harvest may occur on an unscheduled basis to attain Desired Future Conditions.

Desired Future Condition

Emphasis of Condition: These reservoirs provide quality water-based opportunities for recreation in a natural setting. Developed access and recreation sites along trash free shorelines are provided and managed in accordance with Prescription 3.A as long as such management does not conflict with flood control or power generation.

Desired Ecosystem Conditions: Water in these reservoirs meets the state and federal standards. Vegetative diversity exists that provides a variety of plants that support fisheries and wildlife. Submergent and emergent vegetation is present in shallows. Sport fish species are abundant. Where applicable, water quality is suitable for municipal water supplies. Non-native, invasive flora and fauna are not present.

Desired Facilities and Human Activities: The reservoirs provide for family oriented activities, including permitted recreation events and outfitting-guiding that promote positive, sustainable tourism for the locale and region. A variety of boats are seen on the lake surface. Recreation use is concentrated at permitted, privately owned marinas, as well as developed Forest Service recreation sites and boat ramps. Direct contact with other users at these locations is highly probable. Use decreases as one moves away from these sites to the point that a feeling of solitude may occur at times in some areas of these reservoirs. Contact with other users is sporadic and is controllable by the user, by choosing the area and the time of visit. The reservoirs range from very busy, active, and crowded, to solitary or deserted. The reservoirs are managed to provide differing levels of development and human activities in various areas of the reservoir and along the shoreline. Water-based activities, particularly boating, are managed to ensure safety. Management activities and shoreline developments make few dominating visual impacts when viewed from the reservoirs.

Occasionally, management activities include the use of motorized equipment to maintain existing roads and trails. Vegetation may be occasionally manipulated to maintain the conditions that are consistent with the area's designation. Trees damaged or knocked down following unforeseen events such as wildland fire, wind, snow, and insect and disease outbreaks might be removed for public safety or to facilitate restoration toward the conditions that are consistent with the area's designation. Tree felling and removal using motorized equipment could occur. Fire suppression activities could include the use of heavy equipment to construct firelines, while aircraft may provide detection and suppression support. Evidence of prescribed burning may be found.

Goals and Objectives

- 3.B-Goal 1.** Manage reservoirs to maintain water quality that meets state and federal standards.
- 3.B-Objective 1.A.** Promote water quality improvement through environmental education, law enforcement, and special events.
 - 3.B-Objective 1.B.** As soon as possible after their discovery in a reservoir, take actions to eradicate non-native, invasive flora and fauna.
- 3.B-Goal 2.** Manage lake shorelines to maintain natural appearance when viewed from the water despite scattered areas of development.
- 3.B-Objective 2.A.** Acquire private lands and mineral rights in reservoir viewsheds when possible.
- 3.B-Goal 3.** Where not in conflict with flood control or power generation objectives, manage reservoirs to provide safe, family oriented, water-based recreation experiences.
- 3.B-Goal 4.** Improve wildlife and fisheries habitat to enhance wildlife viewing and fishing opportunities.
- 3.B-Goal 5.** Provide cost-effective recreational access to reservoirs that complements existing recreational facilities.
- 3.B-Goal 6.** Manage reservoirs so users can enjoy various recreation experiences, from solitude in natural environments to high levels of human interaction near developed areas.
- 3.B-Goal 7.** Provide for quality lake recreation and lakeshore fish and wildlife habitat.
- 3.B-Goal 8.** Provide non-recreation special use authorizations when necessary for basic public service and to meet other Forest Service objectives, where no reasonable options are available.
- 3.B-Goal 9.** Provide recreation-related events under special use authorization such as fishing tournaments, and outfitter-guide services.

Standards

MINERALS

3.B-MIN-1. The surface is not to be disturbed during any federal mineral exploration or development activity; development of federally owned oil and gas is subject to the no surface occupancy stipulation.

RECREATION/SCENERY

3.B-REC-1. Camping is not allowed within 300 feet of the shoreline of Cave Run Lake or Laurel River Lake, except where designated by the Forest Service.

3.B-REC-2. Prohibit the landing of seaplanes on Cave Run and Laurel River Lakes.

3.B-REC-3. Areas will be managed to meet or exceed Recreation Opportunity Spectrum experienceness of semi-primitive non-motorized, semi-primitive motorized, roaded natural and rural.

3.B-REC-4. Marina concessionaires for boats on Cave Run Lake and Laurel River Lake will provide sewage disposal facilities.

VEGETATION

3.B-VEG-1. Vegetation management will only occur:

- a) To maintain or protect existing facilities or for the construction of new facilities
- b) To improve forest health conditions
- c) When needed to protect or restore the natural ecosystem of the area
- d) To allow a point of interest to be viewed
- e) To provide for fish and wildlife habitat
- f) To protect the public.

3.C.1. RED RIVER NATIONAL WILD AND SCENIC RIVER: WILD RIVER SEGMENT

Setting

This 9.1-mile segment of the Red River, located mainly within the Clifty Wilderness Prescription Area, is managed as an integral part of this wilderness to maintain the primitive, wild condition where natural ecological conditions and processes prevail. This area is classified as a Wild and Scenic River under P.L. 95-625. It is also designated a Kentucky Wild River by the Commonwealth of Kentucky. This Prescription Area contains 683 acres in the Middle Kentucky River Management Area.

This Prescription Area is Unsuitable for Timber Production – Timber harvest not allowed.

Desired Future Condition

Emphasis of Condition: This area is part of the Clifty Wilderness. Little evidence of human activity can be detected here. The free-flowing condition, water quality, and Outstandingly Remarkable Values that qualified this stream segment as a National Wild and Scenic River are protected and enhanced.

Desired Ecosystem Condition: The river corridor provides for natural succession and maturing of forest stands into an old-growth, late-successional condition. On flood plains, forests are dominated by species such as sycamore, river birch, green ash, boxelder, and occasionally American beech, yellow-poplar, eastern hemlock, and white oak. Lower slopes, and mid to upper slopes with north or east aspect, are dominated by mixed mesophytic forest composed of yellow-poplar, American beech, yellow buckeye, white ash, eastern hemlock, sugar maple, with various oaks, hickories and occasional species such as butternut, black walnut, black birch, American basswood, and white pine. Mid to upper slopes with south or west aspect are dominated by oaks with numerous occurrences of species associated with mixed mesophytic forests. Yellow pines may occur on the most exposed sites. Forest openings occur naturally.

The river is free flowing and relatively free of human-caused pollutants. Water quality meets federal and state standards.

Desired Facility and Human Activities: This area is managed as Wilderness to provide a Semi-primitive Non-motorized Recreation Opportunity Spectrum (ROS) experience near trails, access points, and other areas of concentrated use. In other more remote areas, Primitive recreation experiences are available. Access to the river corridor is limited to a few primitive hiking trails provided to protect natural resources rather than for human comfort or convenience. People are challenged to rely on their own physical abilities and follow primitive “leave no trace” recreational pursuits. Facilities, such as trailheads and bulletin boards, are usually located outside the Wilderness. Hiking, primitive camping, rock climbing, fishing, hunting, canoeing, kayaking, and rafting are allowed where they do not adversely impact the wilderness resource.

Goals and Objectives

3.C.1-Goal 1. Maintain and enhance the natural character of the river and its corridor by reducing adverse impacts from private development and use.

3.C.1-Objective 1.A. Acquire private lands and mineral rights from willing sellers within the river corridor.

3.C.1-Objective 1.B. Make trash clean up a priority using public information and interpretive programs.

3.C.1-Goal 2. Protect and enhance the Outstandingly Remarkable Values that qualified this area as a Wild and Scenic River. These are: scenic, recreational, geological, heritage, aquatic, and botanical values.

3.C.1-Objective 2.A. Protect and maintain significant heritage resources in consultation with the State Historic Preservation Officer and interested federally recognized tribes.

3.C.1-Objective 2.B. Maintain the river's free-flowing condition. Ensure that it meets federal and state water quality standards.

3.C.1-Objective 2.C. Maintain and enhance the recreational opportunities associated with the river and its corridor.

3.C.1-Objective 2.D. Coordinate with the Kentucky Natural Resources and Environmental Protection Cabinet on management of this Kentucky Wild River in accordance with current or future agreements.

3.C.1-Objective 2.E. Protect the aquatic and riparian habitats that support native species.

3.C.1-Objective 2.F. Complete limits of acceptable change process with public input.

Standards

MINERALS

3.C.1-MIN-1. The lands within $\frac{1}{4}$ mile of the Wild River bank are statutorily withdrawn from operation of the mineral leasing laws.

ENGINEERING

3.C.1-ENG-1. Any water resources project will be evaluated under the appropriate standard of Section 7 of the Wild and Scenic Rivers Act.

RECREATION

3.C.1-REC-1. Areas will be managed to meet or exceed Recreation Opportunity Spectrum experiences of semi-primitive non-motorized, and semi-primitive motorized.

3.C.2. PROPOSED WILD AND SCENIC RIVER: MARSH CREEK WILD RIVER SEGMENT

Setting

This Prescription Area consists of seven miles of river and 1,240 acres in the Cumberland River Management Area. This river segment has been proposed by the Forest as suitable for federal designation as a Wild and Scenic River. Final action on this designation is pending.

This Prescription Area is Unsuitable for Timber Production – Timber harvest not allowed.

Desired Future Condition

Emphasis of Condition: The northern seven miles of Marsh Creek will be managed as a primitive, wild area where natural ecological conditions and processes prevail with little evidence of human influence. The Outstandingly Remarkable Values that qualified this stream as a proposed National Wild River segment will be protected and enhanced.

Desired Ecosystem Condition: This stream is an area exhibiting natural succession and maturing of forest stands into an old-growth, late-successional condition. On flood plains, forests are dominated by species such as sycamore, river birch, green ash, boxelder, and occasionally American beech, yellow-poplar, eastern hemlock, and white oak. Lower slopes, and mid to upper slopes with north or east aspect, are dominated by mixed mesophytic forest composed of yellow-poplar, American beech, yellow buckeye, white ash, eastern hemlock, sugar maple, with various oaks, hickories and occasional species such as butternut, black walnut, black birch, American basswood, and white pine. Mid to upper slopes with south or west aspect are dominated by oaks with numerous occurrences of species associated with mixed mesophytic forests. Yellow pines may occur on the most exposed sites. Forest openings occur naturally. The river is free flowing with water quality that meets federal and state standards.

Desired Facility and Human Activities: This area is managed to provide a Semi-primitive Non-motorized Recreation Opportunity Spectrum (ROS) experience near trails, access points, and other areas of concentrated use. ROS Primitive recreation experiences occur in the more remote areas. Access to the river corridor is limited to a few hiking trails provided primarily to protect natural resources rather than for human comfort or convenience. Visitors are challenged to rely on their physical abilities and encouraged to follow primitive “leave no trace” recreational pursuits. Minimal facilities are provided, primarily to protect natural resources rather than for the comfort or convenience of visitors. As much as possible, facilities such as trailheads and bulletin boards are located outside the river corridor. Hiking, primitive camping, mountain biking, rock climbing, fishing, hunting, canoeing, kayaking, and rafting occur where they do not diminish the area’s Outstandingly Remarkable Values. The Forest Service, on a case-by-case basis, allows temporary use of motorized vehicles and equipment. Recreational off-highway vehicle use off roads is not found in this area. Rarely will evidence of prescribed burning be found.

Goals and Objectives

- 3.C.2-Goal 1.** Maintain and enhance the natural character of the river and its corridor by reducing adverse impacts from private development and use.
- 3.C.2-Objective 1.A.** Acquire private lands and mineral rights from willing sellers within the river corridor.
 - 3.C.2-Objective 1.B.** Make trash clean up a priority using public information and interpretive programs.
 - 3.C.2-Objective 1.C.** Limit non-recreational special use authorizations to only those necessary for basic public service and Forest Service objectives, where no other reasonable options are available.
- 3.C.2-Goal 2.** Protect and enhance the Outstandingly Remarkable Values that qualified this area as a proposed Wild and Scenic River. These are: recreational and aquatic fauna values.
- 3.C.2-Objective 2.A.** Protect and maintain significant heritage resources in consultation with the State Historic Preservation Officer and interested federally recognized tribes.
 - 3.C.2-Objective 2.B.** Maintain the river's free-flowing condition. Ensure that it meets federal and state water quality standards.
 - 3.C.2-Objective 2.C.** Maintain and enhance the recreational opportunities associated with the river and its corridor.
 - 3.C.2-Objective 2.D.** Protect the aquatic and riparian habitats that support native species.
- 3.C.2-Goal 3.** Manage the river as a primitive, wild area where natural ecological conditions and processes prevail.
- 3.C.2-Goal 4.** Provide ROS Semi-primitive Non-motorized recreation experiences near trails, access points, and other areas of concentrated use. ROS Primitive recreation experiences will be the goal in the more remote areas. Minimal facilities, such as trails, are provided primarily to protect natural resources, not for the comfort or convenience of visitors.

Standards

MINERALS

3.C.2-MIN-1. The surface is not to be disturbed during any federal mineral exploration or development activity. Development of federally owned oil and gas is subject to the No-Surface-Occupancy stipulation.

ROADS/ENGINEERING

3.C.2-ENG-1. Allow no dams or water diversions to be constructed within the river corridor that would substantially alter the river ecosystem or adversely affect aquatic habitat.

RECREATION

3.C.2-REC-1. Areas will be managed to meet or exceed Recreation Opportunity Spectrum experiences of semi-primitive non-motorized, and semi-primitive motorized.

VEGETATION

3.C.2-VEG-1. Vegetation management will only occur:

- a) To maintain or protect existing facilities
- b) To protect against fire, insect, disease, non-native species that threaten to negatively impact the area's Outstandingly Remarkable Values
- c) To protect the public.

3.C.2-VEG-2. Collection of non-timber forest products is not allowed, except for scientific purposes.

3.C.3. RED RIVER NATIONAL WILD AND SCENIC RIVER: RECREATIONAL RIVER SEGMENT

Setting

This Prescription Area consists of 1,440 acres along 10.3 miles of the Red River in the Middle Kentucky River Management Area. This river segment is located within the non-wilderness portion of the Red River Gorge Geological Area. This area is classified as a Wild and Scenic River under P.L. 95-625.

This Prescription Area is Unsuitable for Timber Production – Tree cutting, tree removal, or timber harvest may occur on an unscheduled basis to attain Desired Future Conditions.

Desired Future Condition

Emphasis of Condition: Natural ecological processes and conditions to dominate, but some human influence exists. The Outstandingly Remarkable Values that allowed this to be designated as a National Wild and Scenic River segment are protected and enhanced.

Desired Ecosystem Condition: This segment of the river and its corridor provide for a natural appearing forest interspersed with clifflines. On flood plains, forests are dominated by species such as sycamore, river birch, green ash, boxelder, and occasionally American beech, yellow-poplar, eastern hemlock, and white oak. Lower slopes, and mid to upper slopes with north or east aspect, are dominated by mixed mesophytic forest composed of yellow-poplar, American beech, yellow buckeye, white ash, eastern hemlock, sugar maple, with various oaks, hickories and occasional species such as butternut, black walnut, black birch, American basswood, and white pine. Mid to upper slopes with south or west aspect are dominated by oaks with scattered occurrences of species associated with mixed mesophytic forests. Oaks, and sometimes yellow pines and American chestnut, occur on ridges and the most exposed sites. Openings in the forest canopy occur as the result of natural processes as well as management activities.

The river is free flowing with water quality that meets federal and state standards.

Desired Facility and Human Activities: The area is managed primarily to provide Semi-primitive Motorized and Roded Natural Recreation Opportunity Spectrum (ROS) experiences while protecting the area's unique heritage resources and biological species. However, at the Gladie Cultural-Environmental Learning Center site a more Rural ROS is maintained. Dispersed recreation in addition to environmental and heritage education are major emphases for this area. Several trails, trailheads, and a few roads are managed to provide access. Among large expanses of forested area, some facilities, such as picnic areas, vistas, and primitive campsites, are provided for the comfort and convenience of visitors. Some developments, such as small ponds and openings, enhance wildlife habitat. In places, ample opportunities to interact with others exist. For most of the area, however, there are opportunities for solitude. Limited reliance on personal physical abilities and primitive skills are required except for activities such as rock climbing, rappelling, and backpacking. Most types of outdoor recreation activities and wildlife enhancements occur where negative impacts to natural resources and forest visitors can be mitigated or controlled through regulation, facility

design and operation, or other management. Recreational off-highway vehicle use and special uses not in keeping with the Desired Future Condition do not occur in this area.

Occasionally, management activities include the use of motorized equipment to construct or maintain roads and trails. Vegetation may be occasionally manipulated to maintain the conditions that are consistent with the designation. Trees damaged or knocked down following unforeseen events such as wildland fire, wind, snow, and insect and disease outbreaks might be removed for public safety or to facilitate restoration toward the conditions that are consistent with the designation. Tree felling and removal using motorized equipment could occur. Fire suppression activities could include the use of heavy equipment to construct firelines, while aircraft may provide detection and suppression support.

Goals and Objectives

- 3.C.3-Goal 1.** Maintain and enhance the natural character of the river and its corridor by reducing adverse impacts from private development and use.
- 3.C.3-Objective 1.A.** Acquire private lands and mineral rights from willing sellers within the river corridor.
 - 3.C.3-Objective 1.B.** Make trash clean up a priority using public information and interpretive programs.
 - 3.C.3-Objective 1.C.** Limit non-recreational special use authorizations to only those necessary for basic public service and Forest Service objectives, where no other reasonable options are available.
- 3.C.3-Goal 2.** Protect and enhance the Outstandingly Remarkable Values that qualified this stream as a Wild and Scenic River. These are: scenic, recreational, geological, heritage, aquatic and botanical values.
- 3.C.3-Objective 2.A.** Protect and maintain significant heritage resources in consultation with the State Historic Preservation Officer and interested federally recognized tribes.
 - 3.C.3-Objective 2.B.** Maintain the river's free-flowing condition. Ensure that it meets federal and state water quality standards.
 - 3.C.3-Objective 2.C.** Maintain and enhance the recreational opportunities associated with the river and its corridor.
 - 3.C.3-Objective 2.D.** Coordinate with the Kentucky Natural Resources and Environmental Protection Cabinet on management of this Kentucky Wild River in accordance with current or future agreements.
 - 3.C.3-Objective 2.E.** Protect the aquatic and riparian habitats that support native species.
 - 3.C.3-Objective 2.F.** Complete the Limits of Acceptable Change process with public input.
- 3.C.3-Goal 3.** Provide for ROS Semi-primitive Motorized or Roded natural recreational experiences. Maintain a more Rural ROS experience at the Gladie Cultural-Environmental Learning Center site.
- 3.C.3-Objective 3.A.** Provide and maintain access to the river and its corridor.

3.C.3-Goal 4. Maintain and enhance the recreational opportunities associated with the area, particularly dispersed recreational activities such as fishing, canoeing, kayaking, scenic viewing, hiking, camping, backpacking, and rock climbing.

Standards

MINERALS

3.C.3-MIN-1. The surface is not to be disturbed during any federal mineral exploration or development activity. Development of federally owned oil and gas is subject to the no surface occupancy stipulation.

ROADS/ENGINEERING

3.C.3-ENG-1. Any water resources project will be evaluated under the appropriate standard of Section 7 of the Wild and Scenic Rivers Act.

RECREATION

- 3.C.3-REC-1.** Take action to protect qualifying heritage sites if they are adversely impacted, or will probably be adversely impacted, by human use.
- 3.C.3-REC-2.** Prohibit campfires and camping within 100 feet of the base of clifflines or the back of rockshelters unless at a designated site.
- 3.C.3-REC-3.** Allow no horses or other livestock within this area except on trails designated for such use or as specifically authorized.
- 3.C.3-REC-4.** No trails will be designated for off-highway vehicle use.
- 3.C.3-REC-5.** Areas will be managed to meet or exceed Recreation Opportunity Spectrum experienceness of semi-primitive non-motorized, semi-primitive motorized, roaded natural and rural.

VEGETATION

- 3.C.3-VEG-1.** Vegetation management will only occur:
- To maintain or protect existing facilities or for the construction of new facilities
 - To protect against fire, insect, disease, non-native species that threaten to negatively impact the area's Outstandingly Remarkable Values
 - When needed to protect or restore the natural ecosystem of the area
 - To protect the public
 - To provide for fish and wildlife habitat
 - To provide for viewing of a point of interest
 - For interpretation of heritage and natural resources.

3.C.4. PROPOSED WILD AND SCENIC RIVERS: CUMBERLAND RIVER SEGMENT, WAR FORK CREEK SEGMENT, ROCKCASTLE RIVER SEGMENT - SCENIC RIVERS

Setting

This Prescription Area contains 35.3 miles of river and approximately 5,600 acres of corridors. It is located in the Cumberland River Management Area, except for War Fork Creek, which is in the Middle Kentucky River Management Area. These river segments have been proposed by the Forest as suitable for Federal designation as Wild and Scenic Rivers. Final action on this designation is pending. The Cumberland and Rockcastle River segments are designated as Kentucky Wild Rivers by the state.

This Prescription Area is Unsuitable for Timber Production – Tree cutting, tree removal, or timber harvest may occur on an unscheduled basis to attain Desired Future Conditions.

Desired Future Condition

Emphasis of Condition: Natural ecological processes and conditions dominate, but some human influence exists. The free flowing condition, water quality, and Outstandingly Remarkable Values that qualified these stream segments as a National Wild and Scenic River are protected and enhanced.

Desired Ecosystem Condition: These river segments and their corridors provide for a natural appearing forest. On flood plains, forests are dominated by species such as sycamore, river birch, green ash, boxelder, and occasionally American beech, yellow-poplar, eastern hemlock, and white oak. Lower slopes, and mid to upper slopes with north or east aspect, are dominated by mixed mesophytic forest composed of yellow-poplar, American beech, yellow buckeye, white ash, eastern hemlock, sugar maple, with various oaks, hickories and occasional species such as butternut, black walnut, black birch, American basswood, and white pine. Mid to upper slopes with south or west aspect are dominated by oaks with scattered occurrences of species associated with mixed mesophytic forests. Oaks, and sometimes yellow pines and American chestnut, occur on ridges and the most exposed sites. Openings in the forest canopy occur as the result of natural processes as well as management activities.

Desired Facility and Human Activities: These areas are primarily managed to provide for Semi-primitive Motorized or Roaded Natural Recreation Opportunity Spectrum (ROS) experiences. However, some private lands may have a more Rural Experiences. A few trail and road segments are managed to provide access to the river and its corridor. Between long stretches of undeveloped forest areas there are a few facilities provided for the comfort and convenience of visitors in addition to developments that enhance wildlife and fisheries habitat. Occasional opportunities to interact with others exist. Limited reliance on personal physical abilities and primitive skills may be required except for activities such as boating during high water flows. Recreational off-highway vehicle use and special uses not in keeping with the Desired Future Condition do not occur in these areas. Most types of outdoor recreation activities and wildlife enhancements are appropriate if negative impacts to scenic values, natural resources or forest visitors can be mitigated or controlled through regulation or facility design and operation.

Occasionally, management activities include the use of motorized equipment to construct or maintain roads and trails. Vegetation may be occasionally manipulated to maintain the conditions that are consistent with the proposed designation. Trees damaged or knocked down following unforeseen events such as wildland fire, wind, snow, and insect and disease outbreaks might be removed for public safety or to facilitate restoration toward the conditions that are consistent with the proposed designation. Tree felling and removal using motorized equipment could occur. Fire suppression activities could include the use of heavy equipment to construct firelines, while aircraft may provide detection and suppression support.

Goals and Objectives

3.C.4-Goal 1. Maintain and enhance the natural character of these rivers and their corridors by reducing adverse impacts from private development and use.

3.C.4-Objective 1.A. Acquire private lands and mineral rights from willing sellers within these river corridors.

3.C.4-Objective 1.B. Make trash clean up a priority using public information and interpretive programs.

3.C.4-Objective 1.C. Limit non-recreational special use authorizations to only those necessary for basic public service and Forest Service objectives, where no other reasonable options are available.

3.C.4-Goal 2. Protect and enhance the Outstandingly Remarkable Values that qualified these as Wild and Scenic Rivers. These are: scenic, recreational, geological, and heritage values.

3.C.4-Objective 2.A. Protect and maintain significant heritage resources, in consultation with the State Historic Preservation Officer and interested federally recognized tribes.

3.C.4-Objective 2.B. Maintain and enhance the recreational opportunities associated with these rivers and their corridors.

3.C.4-Objective 2.C. Maintain the free-flowing condition of these study-river segments. Ensure they meet state and federal water quality standards.

3.C.4-Objective 2.D. Coordinate with the Kentucky Natural Resources and Environmental Protection Cabinet on management of these Kentucky Wild Rivers in accordance with current or future agreements.

3.C.4-Objective 2.E. Protect the aquatic and riparian habitats that support native species.

3.C.4-Objective 2.F. Maintain a diversity of forest types in the corridor.

3.C.4-Goal 3. Provide for semi-primitive motorized or roaded natural ROS.

3.C.4-Objective 3.A. Provide access to these rivers.

3.C.4-Goal 4. Maintain and enhance the recreational opportunities associated with the area, particularly dispersed recreational activities such as fishing, canoeing, kayaking, scenic viewing, hiking, camping and backpacking.

Standards

MINERALS

3.C.4-MIN-1. Development of federally owned oil and gas is subject to the controlled surface use stipulation. All other federal mineral activity will be implemented in accordance with the Desired Future Condition and standards of this prescription area.

ROADS/ENGINEERING

3.C.4-ENG-1. Allow no dams or water diversions to be constructed on these river segments that would substantially alter the river ecosystem or adversely affect aquatic habitat.

3.C.4-ENG-2. Evaluations of projects on, directly affecting, or invading the corridors or diminishing the Outstandingly Remarkable Values of these river segments should adhere to the guidance of the Interagency Wild and Scenic Rivers Coordinating Council.

RECREATION

3.C.4-REC-1. Conduct archeological surveys of areas adversely impacted by human use. Take action to protect qualifying heritage sites if they are impacted, or will probably be impacted, by such use.

3.C.4-REC-2. Areas will be managed to meet or exceed Recreation Opportunity Spectrum experiences of semi-primitive non-motorized, semi-primitive motorized, and roaded natural.

VEGETATION

3.C.4-VEG-1. Vegetation management will only occur:

- a) To maintain or protect existing facilities or for the construction of new facilities
- b) To protect against wildland fire, insect and disease outbreaks, or invasive species and disturbance events that threaten to negatively impact the area's Outstandingly Remarkable Values
- c) When needed to protect or restore the natural ecosystem of the area
- d) To protect the public
- e) To provide for fish and wildlife habitat
- f) To provide for viewing of a point of interest
- g) For interpretation of heritage and natural resources.

3.C.5. PROPOSED WILD AND SCENIC RIVERS: ROCK CREEK SEGMENT AND MARSH CREEK SEGMENT - RECREATIONAL RIVERS

Setting

This Prescription Area contains 25.5 miles of river and approximately 6,180 acres of corridors. It is located in the Cumberland River Management Area. These river segments have been proposed by the Forest as suitable for Federal designation as Wild and Scenic Rivers. Final action on this designation is pending. The Commonwealth of Kentucky also designates Rock Creek as a Kentucky Wild River.

This Prescription Area is Unsuitable for Timber Production – Tree cutting, tree removal, or timber harvest may occur on an unscheduled basis to attain Desired Future Conditions.

Desired Future Condition

Emphasis of Condition: Natural ecological processes and conditions dominate. However, some human influence may be evident. The free flowing condition, water quality, and Outstandingly Remarkable Values that qualified these stream segments as a National Wild and Scenic River are protected and enhanced.

Desired Ecosystem Condition: These river segments and their corridors provide for a natural appearing forest. On flood plains, forests are dominated by species such as sycamore, river birch, green ash, boxelder, and occasionally American beech, yellow-poplar, eastern hemlock, and white oak. Lower slopes, and mid to upper slopes with north or east aspect, are dominated by mixed mesophytic forest composed of yellow-poplar, American beech, yellow buckeye, white ash, eastern hemlock, sugar maple, with various oaks, hickories and occasional species such as butternut, black walnut, black birch, American basswood, and white pine. Mid to upper slopes with south or west aspect are dominated by oaks. Oaks, and frequently yellow pines and American chestnut, occur on ridges and the most exposed sites. Openings in the forest canopy occur as the result of natural processes as well as management activities.

Desired Facility and Human Activities: These river segments are managed primarily to provide Semi-primitive Motorized or Roded natural Recreation Opportunity Spectrum (ROS) experiences. However, some private lands will provide a more Rural ROS experience. Trail and road segments are managed to provide access to these segments and their corridors. Between stretches of undeveloped forest areas there may be a few facilities provided for the comfort and convenience of visitors in addition to developments that enhance wildlife and fisheries habitat. Opportunities to interact with others exist. Limited reliance on personal physical abilities and primitive skills will be required except for activities such as boating during high water flows. Recreational off-highway vehicle use and special uses not in keeping with the Desired Future Condition do not occur in these areas. Most types of outdoor recreation activities and wildlife enhancements are appropriate where negative impacts to scenic values, natural resources, or forest visitors can be mitigated or controlled through regulation or facility design and operation.

Occasionally, management activities include the use of motorized equipment to construct or maintain roads and trails. Vegetation may be occasionally manipulated to maintain the conditions

that are consistent with the proposed designation. Trees damaged or knocked down following unforeseen events such as wildland fire, wind, snow, and insect and disease outbreaks might be removed for public safety or to facilitate restoration toward the conditions that are consistent with the proposed designation. Tree felling and removal using motorized equipment could occur. Fire suppression activities could include the use of heavy equipment to construct firelines, while aircraft may provide detection and suppression support.

Goals and Objectives

3.C.5-Goal 1. Maintain and enhance the natural character of these rivers and their corridors by reducing adverse impacts from private development and use.

3.C.5-Objective 1.A. Acquire private lands and mineral rights from willing sellers within these river corridors.

3.C.5-Objective 1.B. Make trash clean up a priority using public information and interpretive programs.

3.C.5-Objective 1.C. Limit non-recreational special use authorizations to only those necessary for basic public service and Forest Service objectives, where no other reasonable options are available.

3.C.5-Goal 2. Protect and enhance the Outstandingly Remarkable Values that qualified these streams as Wild and Scenic Rivers. These are: recreational, aquatic fauna, and water quality values.

3.C.5-Objective 2.A. Maintain the free-flowing condition of these study-river segments. Ensure they meet federal and state water quality standards.

3.C.5-Objective 2.B. Maintain and enhance the recreational opportunities associated with these rivers and their corridors.

3.C.5-Objective 2.C. Coordinate with the Kentucky Natural Resources and Environmental Protection Cabinet (KNREPC) on management of Rock Creek as a Kentucky Wild River in accordance with current or future agreements.

3.C.5-Objective 2.D. Protect aquatic and riparian habitats that support native species.

3.C.5-Objective 2.E. Maintain a diversity of forest types in the corridor.

3.C.5-Goal 3. Provide for semi-primitive motorized or roaded natural Recreation Opportunity Spectrum (ROS) experience. However, on some private land a more Rural ROS will exist.

3.C.5-Objective 3.A. Provide access to these rivers.

3.C.5-Goal 4. Maintain and enhance the recreational opportunities associated with the area, particularly dispersed recreational activities such as fishing, canoeing, kayaking, scenic viewing, hiking, camping and backpacking.

Standards

MINERALS

3.C.5-MIN-1. Development of federally owned oil and gas is subject to the controlled surface use stipulation. All other federal mineral activity will be implemented in accordance with the Desired Future Condition and standards of this prescription area.

RECREATION

3.C.5-REC-1. Areas will be managed to meet or exceed Recreation Opportunity Spectrum experiences of semi-primitive non-motorized, semi-primitive motorized, and roaded natural.

VEGETATION

3.C.5-VEG-1. Vegetation management will only occur:

- a) To maintain or protect existing facilities or for the construction of new facilities
- b) To protect against wildland fire, insect and disease outbreaks, or invasive species that threaten to negatively impact the area's Outstandingly Remarkable Values
- c) When needed to protect or restore the natural ecosystem of the area
- d) To protect the public
- e) To provide for fish and wildlife habitat
- f) To provide for viewing of a point of interest
- g) For interpretation of heritage and natural resources.

3.E. RED RIVER GORGE GEOLOGICAL AREA

Setting

This Prescription Area includes all of Red River Gorge Geological Area outside the Clifty Wilderness. However, it does include the Red River Wild and Scenic River Recreational Segment. It consists of 16,042 acres in the Middle Kentucky River Management Area. This is part of the Geological Area as classified under the authority of 36 CFR 294.1.

This Prescription Area is Unsuitable for Timber Production – Tree cutting, tree removal, or timber harvest may occur on an unscheduled basis to attain Desired Future Conditions.

Desired Future Condition

Emphasis of Condition: Natural ecological processes and conditions dominate, but some human influence, primarily dispersed outdoor recreation, commonly occurs. The outstanding resource values that contributed to this area's designation as part of a Geological Area and National Natural Landmark are protected and enhanced. Attributes that qualified this area as part of the National Historic Landmark and a National Historic District are protected.

Desired Ecosystem Condition: This area provides a natural appearing, mid- to late-successional, old-aged forest environment interspersed with clifflines and rock arches. Lower slopes, and mid to upper slopes with north or east aspect, are dominated by mixed mesophytic forest composed of yellow-poplar, American beech, yellow buckeye, white ash, eastern hemlock, sugar maple, with various oaks, hickories and occasional species such as butternut, black walnut, black birch, American basswood, and white pine. Mid to upper slopes with south or west aspect are dominated by oaks. Oaks, and frequently yellow pines and American chestnut, particularly pitch pine, occur on ridges and the most exposed sites. Openings in the forest canopy occur as the result of natural processes as well as management activities.

Desired Facility and Human Activities: The area is managed primarily to provide Semi-primitive Motorized and Roaded Natural Recreation Opportunity Spectrum (ROS) experiences while protecting the area's unique heritage resources and biological species. However, at the Gladie Cultural-Environmental Learning Center site, Sky Bridge area, and Koomer Ridge Campground, a more Rural ROS is maintained. Dispersed recreation in addition to environmental and heritage education are major emphases for this area. Several trails, trailheads, and a few roads are managed to provide access. Among large expanses of forested area, some facilities, such as picnic areas, vistas, and primitive campsites, are provided for the comfort and convenience of visitors. Some developments, such as small ponds and openings, enhance wildlife habitat. In places, ample opportunities to interact with others exist. For most of the area, however, there are opportunities for solitude. Limited reliance on personal physical abilities and primitive skills are required except for activities such as rock climbing, rappelling, and backpacking. Most types of outdoor recreation activities and wildlife enhancements occur where negative impacts to natural resources and forest visitors can be mitigated or controlled through regulation, facility design and operation, or other management. Recreational off-highway vehicle use does not occur in this area.

Management activities include the use of motorized equipment to construct or maintain roads and trails. Vegetation may be manipulated to maintain conditions consistent with Goals and Objectives. Trees damaged or knocked down following unforeseen events such as wildland fire, wind, snow, and insect and disease outbreaks might be removed for public safety or to facilitate restoration toward the conditions that are consistent with Goals and Objectives. Tree felling and removal using motorized equipment could occur. Fire suppression activities could include the use of heavy equipment to construct firelines, while aircraft may provide detection and suppression support.

Goals and Objectives

3.E-Goal 1. Maintain and enhance the natural character of the area.

3.E-Objective 1.A. Acquire private lands and mineral rights within the area from willing sellers.

3.E-Objective 1.B. Make trash clean up a priority using public information and interpretive programs.

3.E-Objective 1.C. Limit non-recreational special use authorizations to only those necessary for basic public service and Forest Service objectives, where no other reasonable options are available.

3.E-Goal 2. Maintain and enhance the recreational opportunities associated with the area, particularly dispersed recreational activities such as scenic viewing, hiking, camping, backpacking, and rock climbing.

3.E-Goal 3. Protect the values that qualified this area as part of a Geological Area and a National Natural Landmark.

3.E-Objective 3.A. Through the Limits of Acceptable Change process, manage recreation use to mitigate unacceptable resource damage and crowding that can result from heavy recreational use.

3.E-Goal 4. Preserve significant heritage resources in consultation with the State Historic Preservation Officer and interested federally recognized tribes.

3.E-Objective 4.A. Nominate the area for listing on the National Register of Historic Places as an Archeological District. Pursue nomination as a National Historic Landmark.

3.E-Objective 4.B. Complete a Heritage management Plan to identify appropriate uses and treatment for heritage resources.

3.E-Goal 5. Protect and enhance the unique biological species in this area.

3.E-Objective 5.A. Maintains a diversity of forest types through direct management.

3.E-Goal 6. Cultivate the public's appreciation of this area's natural and heritage resources and ecological processes through environmental education and interpretation.

3.E-Goal 7. Manage this area to primarily provide for non-motorized dispersed recreational activities in Semi-primitive Motorized and Roaded Natural ROS experiences.

3.E-Objective 7.A. Retain the roadless characteristics of the Wolfpen Inventoried Roadless Area located between Clifty Wilderness and State Route 77.

Standards

MINERALS

3.E-MIN-1. The surface is not to be disturbed during any federal mineral exploration or development activity; development of federally owned oil and gas is subject to the no surface occupancy stipulation.

RECREATION

3.E-REC-1. Camping is not permitted within 100 feet of the base of any cliff, or the back of any rockshelter unless the Forest Service designates a site.

3.E-REC-2. Prohibit building, maintaining, attending, or using a fire, campfire, or stove fire within 100 feet of the base of a cliff, or the back of any rockshelter, unless a site is designated by the Forest Service.

3.E-REC-3. Allow no horses or other livestock in this area except on designated trails or as specifically permitted.

3.E-REC-4. No trails will be designated for off-highway vehicle use.

3.E-REC-5. Areas will be managed to meet or exceed Recreation Opportunity Spectrum experiences of semi-primitive non-motorized, semi-primitive motorized, and roaded natural.

VEGETATION

3.E-VEG-1. Vegetation management will only occur:

- a) To maintain or protect existing facilities or for the construction of new facilities
- b) To protect against wildland fire, insect and disease outbreaks, or invasive species that threaten to negatively impact the area's resource values
- c) When needed to protect or restore the natural ecosystem of the area
- d) To protect the public
- e) To provide for fish and wildlife habitat
- f) To provide for viewing of a point of interest
- g) For interpretation of heritage and natural resources.

PRESCRIBED FIRE

3.E-FIRE-1. Prior to igniting prescribed fires, conduct a cursory survey within burn units and adjacent clifflines for heritage resources and protect these resources during the burn.

3.F. NATURAL ARCH SCENIC AREA

Setting

This Prescription Area contains approximately 1,065 acres and is located in the Cumberland River Management Area. The Secretary of Agriculture under Regulation U-3 designated this area.

This Prescription Area is Unsuitable for Timber Production – Tree cutting, tree removal, or timber harvest may occur on an unscheduled basis to attain Desired Future Conditions.

Desired Future Condition

Emphasis of Condition: Natural ecological processes and conditions dominate, but some human influence, primarily dispersed recreation, commonly occurs. The public's appreciation of these unique scenic features and the natural setting is cultivated. Unique geological features including rock arches, rock bridges, rockshelters, and "rockhouses" are common in this area.

Desired Ecosystem Conditions: This area provides a natural appearing, mid- to late-successional, old-aged forest environment interspersed with unique geological formations. Lower slopes, and mid to upper slopes with north or east aspect, are dominated by mixed mesophytic forest composed of yellow-poplar, American beech, yellow buckeye, white ash, eastern hemlock, sugar maple, with various oaks, hickories and occasional species such as butternut, black walnut, black birch, American basswood, and white pine. Mid to upper slopes with south or west aspect are dominated by oaks. Oaks, and frequently yellow pines and American chestnut, occur on ridges and the most exposed sites. Openings in the forest canopy occur as the result of natural processes as well as management activities.

Desired Facilities and Human Activities: The area is managed primarily to provide Semi-primitive Motorized and Roded Natural Recreation Opportunity Spectrum (ROS) experiences while protecting the area's unique heritage resources and biological species. However, at developed recreation areas, a more Rural ROS is maintained. Dispersed recreation in addition to environmental and heritage education are a major emphasis for this area. Trails and trailheads are managed to provide access. Some developments, such as small ponds and openings, enhance wildlife habitat. In places, ample opportunities to interact with others exist. For most of the area, however, there are opportunities for solitude. Limited reliance on personal physical abilities and primitive skills are required except for activities such as backpacking. Outdoor recreation activities and wildlife enhancements occur and are compatible with other resource values. Recreational off-highway vehicle use and special uses not in keeping with the Desired Future Condition do not occur in this area.

Occasionally, management activities include the use of motorized equipment to construct or maintain roads and trails. Vegetation may be occasionally manipulated to maintain the conditions that are consistent with the designation. Prescribed fire may be used to restore and maintain the yellow pine forests and rare species in the area, and maintain the upland oak forests in the area. Trees damaged or knocked down following unforeseen events such as wildland fire, wind, snow, and insect and disease outbreaks might be removed for public safety or to facilitate restoration toward the conditions that are consistent with the designation. Tree felling and removal using motorized

equipment could occur. Fire suppression activities could include the use of heavy equipment to construct firelines, while aircraft may provide detection and suppression support.

Goals and Objectives

3.F-Goal 1. Maintain and enhance the natural character of the area by reducing adverse impacts from private development and use.

3.F-Objective 1.A. Acquire private lands and mineral rights within the area from willing sellers.

3.F-Objective 1.B. Make trash clean up a priority using public information and interpretive programs.

3.F-Objective 1.C. Limit special use authorizations to only those necessary for basic service to the general public and Forest Service objectives, where no other reasonable options are available.

3.F-Goal 2. Protect the values that qualified this area as a Scenic Area.

3.F-Goal 3. Maintain and enhance recreational opportunities associated with the area, particularly dispersed activities such as scenic viewing and hiking.

3.F-Goal 4. Provide a natural appearing, mid- to late-successional, old-aged forest environment interspersed with vistas of clifflines and rock arches.

3.F-Goal 5. Provide primarily non-motorized dispersed recreational activities in Semi-primitive Motorized and Roaded Natural ROS experiences.

3.F-Goal 6. Use environmental education and interpretation to cultivate the public's appreciation of the area's natural and heritage resources and ecological processes.

3.F-Objective 6.A. Protect Indian sacred sites.

3.F-Goal 7. Protect and enhance the unique biological species in this area.

3.F-Objective 7.A. Maintain a diversity of forest types in the area.

3.F-Objective 7.B. Maintain the historic American chaffseed location in habitat suitable for the species using appropriate means.

Standards

MINERALS

3.F-MIN-1. The surface is not to be disturbed during any federal mineral exploration or development activity. Development of federally owned oil and gas is subject to the no surface occupancy stipulation.

3.F-MIN-2. Removal of common-variety minerals is prohibited.

RECREATION

3.F-REC-1. No trails will be designated for off-highway vehicle use.

3.F-REC-2. Areas will be managed to meet or exceed Recreation Opportunity Spectrum experiences of semi-primitive non-motorized, semi-primitive motorized, and roaded natural.

VEGETATION

3.F-VEG-1. Vegetation management will only occur:

- a) To maintain or protect existing facilities or for the construction of new facilities
- b) To protect against wildland fire, insect and disease outbreaks, or invasive species that threaten to negatively impact the area's resource values
- c) When needed to protect or restore the natural ecosystem of the area
- d) To protect the public
- e) To provide for fish and wildlife habitat
- f) To provide for viewing of a point of interest
- g) For interpretation of heritage and natural resources.

3.F-VEG-2. Collection of non-timber forest products is not allowed, except for scientific purposes.

3.H.1. RUFFED GROUSE EMPHASIS

Setting

This Prescription Area consists of one location in the Cumberland River Management Area and another in the Licking River Management Area totaling 10,500 acres.

This Prescription Area is Suitable for Timber Production (Scheduled Harvest) – Non-timber emphasis.

Desired Future Condition

Emphasis of Condition: These areas are managed to favor species that use young-age forest conditions with an emphasis on providing high-quality ruffed grouse habitat. They are cooperatively managed with the Kentucky Department of Fish and Wildlife Resources (KDFWR) to provide sport hunting and viewing opportunities.

Desired Ecosystem Conditions: Ruffed Grouse Emphasis areas represent an early-aged forest mosaic within the larger mature forest landscape. Species associated with seedling/sapling forest habitat flourish and contribute to overall landscape diversity. Previously declining populations of bird species dependant on, or associated with, these habitat types, such as the prairie warbler, American woodcock, yellow-breasted chat, common yellowthroat, and orchard oriole are now increasing along with the ruffed grouse population. A combination of vegetation manipulation and prescribed fire result in a forest dominated by tree species that are intolerant to heavy shade. Management activities and occasional natural disturbances create canopy openings, generally around 20 acres in size. Temporary openings, the result of re-vegetation and stabilization of log landings and temporary roads, may be found.

Desired Facilities and Human Activities: Cooperative management focuses on sport hunting and bird watching. The KDFWR is primarily responsible for management of game populations, while the Forest Service is primarily responsible for habitat management. The KDFWR may structure hunting regulations to address area-specific considerations to achieve mutual goals. Roads and trails are scattered throughout the area. Some roads may be closed seasonally to protect resource values. Silvicultural and habitat treatments routinely occur, many of which result in the sale of forest products. Evidence of prescribed fire occurs in many areas. Foot travel is encouraged, and there are extensive opportunities to access seedling/sapling stands. Grouse “drumming” is often heard. Motorized vehicles are restricted to developed roads. Hiking, biking, and horse trails may be present throughout the area. Visitors find themselves in a highly diverse forest landscape with a variety of wildlife viewing opportunities. Sights and sounds of other people and vehicles may occasionally be present. Federal minerals may be developed under standard lease terms.

Goals and Objectives

3.H.1-Goal 1. Develop appropriate early-aged forest conditions to improve structural diversity and sustain an abundance of ruffed grouse and associated species.

3.H.1-Objective 1.A. Establish and maintain a high-canopy overstory matrix with approximately 8 percent in the 0-5 year age class (a 60-year rotation).

3.H.1-Objective 1.B. Develop dense hardwood-dominated seedling/sapling stands greater than 5 acres in size, preferable around 15 – 20 acres, with 20,000 or more stems per acre, using even-aged silvicultural systems.

3.H.1-Objective 1.C. Develop habitat sufficient to sustain a grouse population of up to 30 birds per 640 acres.

3.H.1-Objective 1.D. Identify and develop a similar suitable unit for ruffed grouse management emphasis within the Upper Kentucky River Management Area.

Standards

RECREATION

3.H.1-REC-1. Areas will be managed to meet or exceed Recreation Opportunity Spectrum experiences of roaded natural and roaded modified.

WILDLIFE

3.H.1-WLF-1. Drumming logs must be retained within regenerated stands, at upper slope positions, and aligned parallel to the slope.

3.H.1-WLF-2. Where grapevine control measures are necessary to develop and sustain suitable forest conditions, retain 1-2 acre grape arbors at a density of at least two per 160 acres.

4.A. TIMBER PRODUCTION EMPHASIS AREA

Setting

Unless allocated to another Prescription Area, National Forest System land is allocated to the Timber Production Prescription Area. It may consist of small to large parcels that may be adjacent to, or possibly surrounded by, other Prescription Areas.

This Prescription Area is currently estimated at approximately 396,700 acres (including overlapping prescription areas) across the DBNF.

Approximately 368,500 acres of forest and woodland in this prescription area are classified as Suitable for Timber Production (Scheduled Harvest) – Timber emphasis. All potential wooded grassland/shrubland (approximately 1145 acres); and those areas identified as Economically Unsuitable (approximately 7081 acres) are classified as Unsuitable for Timber Production – tree cutting, tree removal, or timber harvest may occur on an unscheduled basis to attain desired future conditions.

Desired Future Condition

Emphasis of Condition: This area is managed for the sustained production of high-value sawtimber. A profitable harvest of timber products takes place on a regular schedule. Timber stands improvement and regeneration harvest methods that support optimal growth and yield of high-quality sawtimber are applied to sites that are most productive of oak and other valuable hardwoods.

Desired Ecosystem Conditions: Forest communities range from early through mid-successional, with canopies containing mostly shade-intolerant to mid-tolerant tree species. Shade-tolerant understory species rarely become dominant in the canopy at the time of the final regeneration harvest. Two-aged and occasional even-aged forests, in various stages of development, characterize the area. Stands range from recently harvested units just beginning to regenerate to economically mature, well-stocked stands with large, high-quality trees. Young stands range in size from 10 - 40 acres, although some salvage regeneration areas may be larger. Early successional habitat conditions are scattered and become available in changing locations as a result and of timber harvesting across the landscape.

Part of the area is classified as unsuitable for timber production due to economic factors²¹. On sites where long-term costs of harvest/reforestation greatly exceed timber value, silvicultural activity seldom occurs, and such sites may develop old-growth characteristics. However, timber suitability classification may change as economic factors change. Economically “marginal” stands may be reclassified as suitable for timber production if markets improve. Stands currently inaccessible could be reclassified if ownership patterns change or rights-of-way become available.

²¹ Stands classified as MIN Level where costs exceed product values. Such stands may have steep slopes or physical barriers, low value products, excessive road costs, or be an isolated tract with limited access.

Habitat associations present at various levels as a result of timber management include:

- a) Early successional grass/forb associates
- b) Early successional shrub/seedling/sapling associates
- c) Mid-age upland and cove forest associates
- d) Mature upland and cove forest associates.

Populations of ruffed grouse, white-tailed deer, and eastern wild turkey are maintained. Management and protection is provided for rare communities and species associates, along with management and protection measures for occurrences of TES and locally rare species. Such species continue to persist on Forest lands.

Desired Facilities and Human Activities: A network of system roads provides access to as much of this area as practical. Roads are maintained to provide access for Forest visitors and administrative use. Temporary roads, constructed to access harvest units, are closed and revegetated after fulfilling their purpose. Logging and other cost-effective silvicultural treatments occur. Pulpwood, fuel wood, and low-value sawtimber are occasionally harvested along with high-value sawtimber and as a by-product of timber stand improvement. Hunting and other dispersed recreation, such as OHV riding, mountain biking, horseback riding, and berry picking commonly occur. In highly used portions of this area, visitors find attractive interpretative signs that explain the management goals for the area.

Goals and Objectives:

4.A-Goal 1. Provide a non-declining, sustained yield of timber products.

4.A-Objective 1.A. Maintain at least the current average of sawtimber growing stock on suitable timberland of at least 9 CCF/acre (5.4 MBF/acre) within this area over the decade; or, maintain an average net annual change of sawtimber on suitable timberland at ≥ 0 within this area over the decade.

4.A-Objective 1.B. Work towards a balanced age-class distribution by regenerating only from 10-year age-classes that contain >8 percent of the suitable timberland within the prescription area at the time of project planning.

4.A-Objective 1.C. Reforest all non-stocked and inadequately stocked forest (not managed woodland or wooded grassland/shrubland) within the planning period.

4.A-Objective 1.D. Release all planted trees as needed (typically 1st and 3rd growing season).

4.A-Objective 1.E. Maintain forest pest host conditions at low hazard. Conduct aggressive suppression of both non-native and native pests using all available tools including species conversions to match species to sites.

4.A-Goal 1. Grow trees to provide quality sawtimber at final harvest.

4.A-Objective 2.A. Promote the development of tree Grades 1 and 2 during thinning operations (1985 LRMP, pg. IV-58, mod).

4.A-Objective 2.B. Develop overstories containing at least a 50 percent component of high-value appraisal species²² on suitable sites during silviculture operations. The remainder should consist of mid-value species (including southern yellow pine and other conifers).

²² NRO: 812,833,837; WHO: 802, 832(grade 1&2); WAL; CHY; Mid-value = all other grade 3+ native.

4.A-Goal 1. Optimize the area’s potential for volume timber production.

4.A-Objective 3.A. Thin 15,000 acres per decade to maintain stands below the “overstocked” level.

4.A-Objective 2.B. Harvest suitable stands no earlier than at the culmination of mean annual increment²³, now estimated to average about 100 years, in all community types. This translates to an annual (even-aged) harvest of about one percent of suitable forest in this prescription area.

Rotations and Entry Periods should approximate the following:

Forest Type	Even-age	Two-age	Uneven-age
Yellow pine, yellow pine –hardwood, cove-northern harwood	90	80 and 160	Target Basal Area diameter with q factor (BDQ)=70/24/1.6 for Single or Group. Enter when merchantable.
Mixed mesophytic, oak-yellow pine	100	90 and 180	
Upland Oak	110	100 and 200	

Standards

RECREATION:

4.A-REC-1. Trails -- OHV, horse, and foot -- will occasionally be rerouted to reduce maintenance costs, e.g., where grass/shrub/sapling growth is rapid, or for more pleasing visual perspectives.

WILDLIFE MANAGEMENT:

4.A-WLF-1. Small inclusions of rare communities will be managed, maintained, or enhanced, unless this activity conflicts with objectives; if conflicts occur, minimum legal requirements will at least be met.

VEGETATION MANAGEMENT:

4.A-VEG-1. The majority of this area is classified as Suitable for scheduled timber production – Standard – Normal timber production. Those lands having timberland economically unsuited for timber production will be identified on a site-specific basis. Land classification will be updated if factors change significantly. When such changes cause a variance in suitable acres of more than 10 percent from 2002 estimates, an amendment must be made to the Forest Plan. Year 2002 estimates of land suitable for timber production within this prescription area is: 349,648 acres.

²³ Based on projections using the Forest Vegetation Simulator, Central States Variant (see Appendix B).

- 4.A-VEG-2. MATURE FOREST, OPEN UNDERSTORY.** Maintain at least 100 blocks, distributed across all MAs, minimum 20 acres each, in the following condition: mature (80+ years old) mixed mesophytic, oak-pine and upland oak with open midstory/shrub layers; with scattered pockets (up to 1 acre) of 40-80 BA and burned areas. Maintain corridors between tracts using cliff zones or riparian zones (yellow-throated vireo).
- 4.A-VEG-4. DENSE UNDERSTORY.** Provide 19 blocks, minimum 110 acres each, distributed across all MAs in the following locations and conditions: 40-60 percent of the block will contain dense hardwood understory either with or without high canopy forest on damp, mesic slopes that preferably adjacent to the riparian-aquatic prescription area (Kentucky warbler, American redstart in part).
- 4.A-VEG-5. THINNED FOREST.** Provide at least seven tracts, approximately 250 acres each, distributed in all MAs, with emphasis in the Cumberland River MA stressing the following habitat conditions: semi-open canopy (around 60-70 BA), relatively dry, mature forest >80 years old (20 percent may be 0-80 year old forest), preferably dry-mesic pined-oak and dry-xeric pine-oak forest types, (dry-mesic oak and dry-xeric oak acceptable) with open midstory and shrub layers, in which burning and/or midstory treatments have occurred. Provide at least 15 snags/10 acres >14 inches dbh where available. Include approximately five percent of each block in permanent grassy/low shrub openings (at least two, min. one acre) (summer tanager, red-headed woodpecker, yellow-throated vireo, eastern wood pewee, northern flicker, Chuck-will's widow) [7 x 250 area areas = 1750 acres of thinning and burning, in age 80+ upland forest].
- 4.A-VEG-6. WOODED GRASSLAND/SHRUBLAND and WOODLAND.** Provide at least 67 blocks distributed in all MAs (minimum 30 blocks total in Cumberland MA and 10 Middle Kentucky MA), approximately 45 acres each, stressing the following habitat conditions: dry, mature (70-80 years +) forest (preferentially dry-mesic pine-oak and dry-xeric pine-oak, but dry-mesic oak, dry-xeric oak and general forest acceptable) with semi-open to open canopy (around 40-50 BA woodland) with open midstory and shrub layers, with at least 15 (>14 inches dbh) snags/ten acres. Approximately 20 percent of each block will be maintained in a combination of grassy openings and wooded grassland/shrubland. Burn blocks to maintain grassy/low shrub conditions (red-headed woodpecker, yellow-throated vireo, eastern wood pewee, northern flicker, summer tanager, chipping sparrow, Chuck-will's widow, prairie warbler) 56 x 45 acre areas = 2,700 acres of thinning and burning, in 80+ upland forest. (Changed 60 to 56, based on 200 acres provided in Upper Kentucky M.A for rosinweed in previous standard; also added 11 to get wooded grassland/shrubland. Added distribution in Cumberland MA and Middle Kentucky MA for prairie warbler.)
- 4.A-VEG-7. PINE WOODLAND AND WOODED GRASSLAND/SHRUBLAND.** Provide 100 blocks, minimum 19 acres each (50 blocks of 38 acres each preferred), distributed across all management areas (MAs), but with emphasis in the Cumberland and Middle Kentucky MAs, in the following habitat conditions: open to semi-open canopy (30-50 BA) with areas of little to no canopy (0-40 BA) in primarily southern yellow pine forest type, but can include dry-mesic pine-oak, dry-xeric pine-oak, dry-mesic oak, and dry-xeric oak forest types, with little to no midstory, but with areas of shrubs and generally grassy (warm season) herb layer; prescribed fire is beneficial. In addition, other grassland or old fields are likely to provide additional habitat (northern bobwhite quail, field sparrow, prairie warbler, Bachman's sparrow, yellow-throated warbler).

- 4.A-VEG-8. HARDWOOD WOODLAND.** Maintain eight blocks, minimum 25 acres each, in the following conditions: mixed mesophytic and dry-mesic oak forest (at least age 50) with open canopy (30-50 BA), midstory, shrub layers, mixed with openings and forest edge. Blocks are established at known locations of the Wasioto rosinweed. Use prescribed burning to maintain habitat and promote flowering in these blocks. (Based on current information; applies to Redbird Ranger District only.)
- 4.A-VEG-9. PINE AND/OR HEMLOCK.** Maintain at least 100 stands containing predominantly mature (80+ years) yellow pine and/or hemlock, minimum 15 acres each, distributed across all management areas (Sharp-shinned hawk – breeding habitat).
- 4.A-VEG-10. PINE FOREST, MIXED AGE.** Provide at least 100 blocks, minimum 330 acres each, distributed in the Licking MA (5 blocks), in the Middle Kentucky MA (30 blocks), and the Cumberland MA (65 blocks), in predominantly forested land of which one-half is mature (80+ years) dry-mesic pine-oak, dry-xeric pine-oak and/or southern yellow pine (30-100 percent pine component) with open canopy (60 –70 BA) and little to no midstory. Include at least 20 acres of woodland in conjunction with five acres of savanna and five acres of warm season grassy openings in 50 of the blocks. Must include pines >20 inches dbh (sharp-shinned hawk – foraging habitat, yellow-throated warbler, northern bobwhite quail, field sparrow).
- 4.A-VEG-11. SMALL MOIST GRASSY OPENINGS.** Provide at least one hundred generally forested blocks, minimum 12 acres each, distributed in all MAs. Each block will have 1-2 acres of openings. Each opening will contain the following habitat at least 0.25 acre in size: open ground, all with moist, poorly drained soils, considering areas such as bare ground, old fields, cultivated land, pastures, grassy openings, and 1-3 year-old regeneration areas on both NF and other ownerships. Needs edge habitat containing high shrub density areas and areas providing partial to wet thickets along meandering streams or swampy ground are preferred (American woodcock).
- 4.A-VEG-12. SHRUB OPENING.** Provide 100 blocks, minimum seven acres each, in the Upper Kentucky MA and Jellico Mountains area of the Cumberland MA with the following habitat conditions: scattered deciduous saplings, particularly black locust and sumac such as in regeneration areas (10-20 years) and overgrown fields in addition to forest with thick shrub and sapling layers; does not require high canopy (Yellow-breasted chat in part, Goldenwing warbler).
- 4.A-VEG-13. ERICACEOUS UNDERSTORY.** Provide at least 100 blocks, minimum eight acres each, distributed in all MAs with the following habitat conditions: moist, shady forest (>80 years old, based on DBNF data) on moderate to steep slopes in mixed mesophytic woods and riparian areas. Prefer dense understory of rhododendron and mountain laurel but will use undertory of woody deciduous trees. Require leaf litter on slopes for nesting. Avoids isolated tracts of forest (Worm-eating warbler).
- 4.A-VEG-14.** Provide at least 100 blocks, of minimum seven acres each, distributed in all Management Areas, in predominantly grass cover. At least half of the blocks are to be warm season grass (field sparrow; northern bobwhite quail, prairie warbler in part).

4.B. GENERAL FOREST AREA 1985 PLAN

[See the 1985 Land & Resource Management Plan, Management Areas 6 and 7.]

5.A. COMMUNICATIONS SITES

Setting

Existing communications sites on the Daniel Boone National Forest are identified by district and type of use in Table 3 - 2.

Table 3 - 2. Communications Sites and Use Type.

Communications Sites by District	Commercial Use	Administrative Use
Morehead RD		
Triangle Mountain	X	
McCausey Ridge	X	
Stanton RD		
Pine Ridge		X
London RD		
Indian Trail Tower	X	
Indian Ridge	X	
McKee	X	
Baldrock		X
Somerset RD		
Mt. Victory	X	
Stearns RD		
Wiborg	X	
Redbird RD		
Bell Tower		X
Big Double		X
Cherry Tree		X
Hector	X	
Lucinda		X

This Prescription Area consists of approximately 20 acres across all Management Areas and is classified as Unsuitable for Timber Production (all cleared non-forest land).

Desired Future Condition

Emphasis of Condition: The typical communications site is located on an accessible high point that encompasses several acres. Usually a security fence is placed around the communication facility. These are non-forest, small cleared sites containing communication tower(s). Most of these areas have associated special use authorizations.

Desired Ecosystem Conditions: Highly modified non-forest condition (predominantly grasses) is maintained.

Desired Facilities and Human Activities: Communications sites have adequate road access, one or more towers and equipment storage facilities located on open sites. These sites are infrequently visited by the permit holder(s), usually for maintenance purposes. Other activities are not encouraged at these sites. However, hiking may occur along roads that access communications sites.

Goals and Objectives

5.A-Goal 1. Maintain a non-forest ground cover to protect the integrity of the soil and site and to buffer the towers and facilities from wildland fire.

5.A-Goal 2. Minimize potential for migratory bird mortality associated with these sites.

5.A Objective-2.A. Encourage modification of existing communication towers to minimize the potential for migratory bird mortality associated with these sites.

Standards

LANDS

5.A-LAND-1. Non-Forest Service communications sites require special use authorization.

MINERALS

5.A-MIN-1. The surface is not to be disturbed during any federal mineral exploration or development activity; development of federally owned oil and gas is subject to the no surface occupancy stipulation.

RECREATION

5.A-REC-1. Areas will be managed to meet or exceed Recreation Opportunity Spectrum experiences of semi-primitive non-motorized, semi-primitive motorized, roaded natural, and rural.

WILDLIFE

5.A-WLF-1. Design any new towers and ridge-top developments to minimize collision impacts by migratory birds.

5.C. SOURCE WATER PROTECTION

Setting

This Prescription Area -- Zones 1 and 2 -- protects municipal drinking water sources and was developed in close cooperation with the Kentucky Division of Water (KDOW). Similar to the approach taken by the KDOW, each source water protection area is divided into zones²⁴:

Zone 1 – Begins one-quarter mile below the water intake site and extends five miles upstream (one mile up-channel in lakes) of the intake along any stream that is 3rd order or larger (on 1:24,000 scale topographic map). This zone includes the surface water and extends one-quarter mile from the shores of these streams or lakes (or nearest watershed boundary if within one-quarter mile).

Zone 2 – Extends the protection area to 10 miles (5 miles up-channel in lakes) above the water intake along the source stream and any tributaries that are 3rd order or larger (on 1:24,000 scale topographic map). It includes Zone 1 and increases the total width to one-half mile from each side of these streams or lakes (or nearest watershed boundary if it is within one-half mile).

Zone 3 – Extends 25 miles (10 miles up-channel in lakes) above the water intake along the source stream and any tributaries that are 3rd order or larger (on 1:24,000 scale topographic map). It includes the area of any 6th level hydrologic unit adjacent to these streams. Zone 3 is not part of this Prescription Area and is governed by Forestwide management direction.

This Prescription Area -- Zones 1 and 2 -- consists of approximately 34,015 acres across all Management Areas, of which 1,725 acres are surface water.

The portion of Zone 1 within 300 feet of a water body is Unsuitable for Timber Production – Tree cutting, tree removal, or timber harvest may occur on an unscheduled basis to attain Desired Future Conditions. Approximately 15,020 acres of the prescription area are Suitable for Timber Production (Scheduled Harvest) – Non-timber emphasis.

Desired Future Condition

Emphasis of Condition: This area is managed to produce a relatively stable and continuous flow of clean, potable water to catchments or intakes of public water supplies.

Desired Ecosystem Conditions: Older forests characterize the first 300 feet of Zone 1. This zone is void of potential contaminants; stream sediment is at natural background levels.

The remainder of Zone 1 and Zone 2 are characterized by a range of forest ages with a few areas of regenerating forest resulting from long-rotation harvests. A relatively natural background level of sediment enters into local water supply catchments; no other pollutants occur.

Water quality conditions in both zones meet state Beneficial Use Standards for drinking water supplies.

Desired Facilities and Human Activities: A forest of little new development, low ground disturbance, and low road densities characterizes Zone 1. Dumps are cleaned up. Existing

²⁴All distances relate to “map distances”.

recreational facilities are maintained in top condition. Road, trail, and facility construction are relatively minor and very limited in nature. Lake shoreline stabilization is emphasized.

Zone 2 is characterized by low use that generates small, short-term amount of sedimentation and little or no contaminants compared to background levels. Dumps are cleaned up. Existing marinas, sewage treatment plants and recreational facilities are maintained in top condition and monitored to be within State water quality standards.

Goals and Objectives

5.C-Goal 1. Provide clean water to public water supply intakes.

5.C-Objective 1.A. Meet or exceed state water quality and drinking water standards.

5.C-Objective 1.B. Close and/or rehabilitate roads determined to be causing degradation to water quality.

5.C-Objective 1.C. Stop illegal land and water dumping; take preventative measures to stop chemical spills and leaks.

5.C-Objective 1.D. Stop dumping of wastewater into source drinking waters through education programs and/or law enforcement action.

5.C-Objective 1.E. Stabilize reservoir shorelines where practical.

5.C-Objective 1.F. Take action to eliminate straight pipe sewage dumping that affects National Forest System lands.

5.C-Objective 1.G. Marinas, sewage treatment plants, and storage facilities will be maintained to prevent chemical spills and leaks.

5.C-Objective 1.H. Stabilize bare or disturbed soil.

5.C-Goal 2. Provide a relatively stable and continuous flow to public water supply intakes.

5.C-objective-2.A. Five percent of each source water unit beyond the first 300-foot zone should be in woodlands and/or 0-10 aged forest. This includes the effects of catastrophic events. This approximately 200 year rotation is designed to maintain a stable forested landscape within the Prescription Area.

5.C-Goal 2.A. Promote older forest conditions within the first 300 feet of Zone 1.

Standards

LANDS

5.C-LAND-1. New or replacement pipelines transporting materials that could adversely affect water quality must include protective measures such as double walls and leak detection devices.

MINERALS

5.C-MIN-1. Within zone 1: the surface is not to be disturbed during any federal mineral exploration or development activity; development of federally owned oil and gas is subject to the no surface occupancy stipulation.

5.C-MIN-2. Within zone 2: development of federally owned oil and gas is subject to the controlled surface use stipulation; all other federal mineral activity will be implemented in accordance with the Desired Future Condition and standards of this prescription area.

ROADS/ENGINEERING

5.C-ENG-1. Road or facility construction may be considered in Zone 1, only if site-specific analysis shows that new roads or facilities are compatible with state drinking water standards (401 KAR Chapter 8).

5.C-ENG-2. No hauling of Tier II chemicals²⁵ is permitted on National Forest System roads. The exception to this standard is the hauling of petroleum to marinas.

5.C-ENG-3. No new chemical storage facilities²⁶ will be constructed in Zone 1. Old facilities will be maintained or removed.

RECREATION

5.C-REC-1. No trails designated for off-highway vehicle use will be allowed in Zone 1, except for minor encroachments to avoid steep terrain.

5.C-REC-2. Areas will be managed to meet or exceed Recreation Opportunity Spectrum experiences of semi-primitive non-motorized, semi-primitive motorized, roaded natural, and rural.

VEGETATION

5.C-VEG-1. Timber harvesting and associated road construction will not occur within 300 feet of a perennial water body in Zone 1.

5.C-VEG-2. Pesticide use is not allowed in Zone 1 except where necessary to control the spread of insect or disease outbreaks.

²⁵ Tier II chemicals are those having Material Safety Data Sheets (MSDS) and in quantities greater than 10,000 pounds for “hazardous substances” or smaller quantities as listed in 40 CFR Part 355 for “extremely hazardous chemicals”.

²⁶ Chemical storage facilities are defined in KRS Chapter 39E.



Logging Operation on the Daniel Boone National Forest