

## **Appendix E**

### **Forest-wide and Management Area Direction and Guidance**

#### **Forest-wide Direction and Guidance**

National Forest responsibilities in recovery plans for threatened and endangered species covered under Federal laws will be carried out.

All lands affected by land transfer and management activities are surveyed and evaluated to avoid or minimize effects on Federally designated threatened and endangered species habitat.

Biological evaluations are required of all activities that could adversely affect endangered, threatened or sensitive species. Management objectives for conservation of these species, including mitigating measures, are established in cooperation with the US Fish and Wildlife Service (USFWS) and appropriate State agencies.

Timber harvest and vegetation management are used within the context of perpetuating and enhancing biological diversity at different spatial scales and of differing desired conditions in different management areas. It is a method of providing diverse ecosystems and accomplishing wildlife, recreation, visual, and silvicultural management objectives.

Vegetation management may also be employed to restore native plant and animal communities and ecosystems.

Vegetative types are interspersed to provide viable habitat for the wildlife and fish species native to southern Indiana.

The characteristics and management of adjacent lands is considered when planning and implementing activities on the National Forest.

Cave openings, cliff faces, springs, seeps, wetlands, barrens, glades, and dry forests are recognized as special habitats and will be managed to protect or enhance physical, historical, and ecological characteristics.

Core Areas will be left essentially undisturbed by land management activities, thereby allowing natural processes of forest succession to take place.

Roads, timber harvest, oil, gas, and mineral activities, as well as other actions that would normally occur naturally, such as fire, are prohibited.

Disturbed areas are stabilized as soon as practical, or at least within the same growing season as the disturbance occurs. Priority is given to stabilization of areas discharging soil into water courses, especially those which affect the watershed of municipal or recreational reservoirs.

Water bodies may be created if there are adequate watersheds and soil conditions are conducive to construction of water holding structures.

Forest management activities will also comply with all other U.S. Environmental Protection Agency approved State plans developed under the Clean Water Act as amended.

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Vegetation management guidance for riparian areas, riparian filter strips, special consideration zones, and SMZ's applies not only to streams, but also to lakes, wetlands, and karst drainages when applicable. It will emphasize enhancement and/or maintenance of riparian-dependant resources. Riparian areas are withdrawn from the suitable timber base.

Within the context of management for other ecological values, vegetation canopies in and along streams are managed to maintain water temperatures within the prescribed ranges for fisheries objectives.

Vegetative management in the effective area of natural springs is limited to providing for threatened and endangered species, and on a case-by-case basis, to restore native communities.

The free-flowing condition of springs will be protected, including karst springs, to maintain their functional and qualitative integrity.

Lakes are constructed where adequate watersheds exist and where a lake would be appropriate. The consideration of habitat needs of animals attracted to lakes will be incorporated into their design (i.e. islands, peninsulas, standing live and dead trees).

Permanent and temporary wetlands may be developed where needed and appropriate. Drained, natural wetlands (those which were known to exist on a site naturally) are restored whenever feasible. Existing wetlands will be protected.

New forest openings may be established, and some openings maintained in native vegetation as site opportunities permit, and as necessary to meet management area objectives.

Selective treatment of vegetation on transmission line and pipeline rights-of-way are favored to improve wildlife forage.

Timber harvest, prescribed burning, brush hogging, and other management activities are used to accomplish wildlife, recreation, visual and silvicultural management objectives.

Forest openings may be established or designated on a variety of sites, such as ridge tops, mid-slope benches, and valley bottoms to provide for different ecological requirements of native flora and fauna.

Caves are protected and managed in accordance with the Federal Cave and Karst Resources Protection Act of 1988, FSM 2353, Memorandums of Understanding (MOUs) between the Forest Service and the National Speleological Society, the Indiana Karst Conservancy, Inc., the Forest Cave Management Implementation Plan, FCMIP (Forest Plan, Appendix I), and individual specific cave management plans. The FCMIP and individual cave management plans are tiered to the Forest Plan.

Except where modified by an existing cave management prescription, vegetation within a 150-200 foot radius of cave entrances and infeeder drainages with slopes greater than 30 percent will generally not be cut. No surface disturbing activities will be conducted on any slopes steeper than 30 percent adjacent to cave entrances. Similar protection areas will be maintained around direct drainage inputs such as sinkholes and swallow holes known to open into a cave's drainage system, or any streams flowing into a known cave.

Recreational use of caves on the Forest will neither be encouraged nor discouraged. Management action is considered where damage to karst or other resources exists and is likely to continue.

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Gating of cave entrances will only be considered as a last resort on a case-by-case basis and where evidence demonstrates this to be the only viable option to protect a fragile resource.

Mitigating measures for Forest management activities affecting air quality are developed on a case-by-case basis to ensure compliance with applicable State of Indiana standards. Regulatory agencies are consulted as necessary.

Prescribed fires will be designed to minimize the effects of smoke on air quality.

Pesticides (including herbicides) are generally applied only when non-chemical methods are determined to be ineffective or impractical (See Appendix L).

Pesticides are used only after site-specific analysis of alternatives clearly demonstrates that pesticide use is essential to meet management objectives.

Site-specific environmental analysis will identify measures required to reduce off-site movement, drift potential, and adverse effects on threatened, endangered, and sensitive species, non-target vegetation, human and wildlife health, and any other relevant environmental elements.

Only pesticides registered by the U.S. Environmental Protection Agency (EPA) are used, in full accordance with the Federal Insecticide, Fungicide, Rodenticide Act as amended, except as otherwise provided in regulation orders, or permits issued by the EPA.

Coordinate use of pesticides with U.S. Fish and Wildlife Service and Indiana Department of Natural Resources to ensure the use will not adversely affect endangered or threatened animal or plant species, or their critical habitats.

Special Use permittees are required to meet the same environmental standards as those applied to Forest Service activities.

On utility rights-of-way under special use permit, selective application of herbicides is allowed.

All wildfires will be suppressed on National Forest land.

Prescribed fire will not be used in Core Areas or in the Charles C. Deam Wilderness during this planning period.

Trails will not be located in areas that might jeopardize any threatened or endangered species.

Foot travel will be allowed on any trail as well as off trails, unless specifically prohibited.

Specially adapted trails designed to accommodate infrequent administrative and maintenance needs for forest openings, ponds, and wetlands are allowed.

Land exchanges and disposal will meet the intent of flood plain and wetlands Executive Orders 11988 and 11990.

High priority will be given to acquisition of lands, through purchase or exchange, to consolidate Forest ownership, provide access to existing National Forest land and water, and protect or enhance threatened

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and endangered species habitat or other special areas. High priority will also be given to obtaining lands to acquire or retain areas with significant caves; permit protection, development, and management of wetlands, lakes and ponds or recreation facilities; and to eliminate sources of water pollution.

Roads are not located in areas that might jeopardize any threatened or endangered species or karst features.

Changes to the existing road system will be made only after the changes are identified in an appropriately documented environmental analysis.

Changes to the existing road system that may be needed include, but are not restricted to, the following:

- Parking lot or trailhead construction
- Boat ramp or canoe access construction
- New road and bridge construction
- Reconstruction or relocation of existing roads
- Reconstruction or replacement of existing bridges

Some closed roads will be recontoured and revegetated to restore, as closely as practical, the area's preconstruction contour, shape, and environmental condition.

Off-road, public parking is provided. Small, dispersed lots are located along all-weather State, County, and Forest Service roads that are open to public motorized traffic at all times.

A decision to implement any proposed action affecting resources, land uses, and environmental quality shall be preceded by an environmental analysis. The responsible official will use the results of the analysis to determine if any documentation is required under the National Environmental Policy Act.

Where possible, utility rights-of-way across National Forest land are combined in corridors to reduce total forest impacts.

Permittees are required to meet the same environmental standards as those applied to the Forest Service and to manage their corridors for optimum biological diversity and favor natural plant communities.

All lands under special-use permits are managed for overall plant and animal diversity where possible.

In karst regions, special precautions in operating plans will be included to avoid drilling and damaging cave and underground river areas.

No surface disturbance is allowed without required special mitigating measures which may be due to seasonal restrictions; road construction and maintenance requirements; setbacks from streams, wetlands, and ponds, noise abatement, wildlife coordination; and visual resource coordination.

Activities will not be permitted when they jeopardize the continued existence of Federally-listed endangered or threatened species or adversely affect habitat for these species.

Special mitigating measures will be considered prior to any surface or subsurface activity in areas of karst geology or topography.

## **Management Area Direction and Guidance**

### **MANAGEMENT AREA 2.4**

No vegetation management or removal will occur on banks or in associated riparian areas except as necessary to manage threatened and endangered species, restore natural wetlands, stabilize banks, develop and maintain access sites for recreation, or restore natural riparian vegetation which may also be needed to provide shade or nutrients for aquatic communities (Forest Plan, Appendix J).

The Forest, in cooperation with the IDNR and U.S. Army Corps of Engineers, may utilize bank stabilization techniques to mitigate erosion resulting from water fluctuations on Forest land.

Wetlands may be developed or restored as sites permit.

Canoe or boat access points with parking, toilet facilities, garbage pickup, camping, and information boards may be constructed along rivers or lakes. Access points are designed to provide vehicle parking in a manner that protects the bank, screens vehicles from the view of river travelers, and facilitates authorized uses.

Average trail density will be 2.0 miles per square mile or less.

Dispersed or developed trailheads may be provided for mountain bicycle, hiking, and canoe trails. No trailhead specifically designed for horse use will be provided.

The emphasis on recreation and visuals in this Management Area result in it not being suited for timber production. However, the option of salvage activity is retained, but would be used only after full public involvement and determination that salvage would be consistent with the desired future condition of the management area.

### **MANAGEMENT AREA 2.8**

Young hardwood stands (0 to 9-year age class) are important as habitat for some plant and animal species and communities. In general, 4-12 percent of the area should be in these stands.

Snags for wildlife purposes will be left in all timber stands. Snags will not be left where they might fall on forest roads, trails, or recreation sites or conflict with visual quality objectives.

Some living den trees will be maintained in all timber stands. If an adequate number of existing den trees are not available in an area, "recruitment den trees" (trees with broken tops, limbs, or otherwise injured) will be left. These den trees will be left primarily in hollows, along stand borders, and in clumps to prevent wind throw and for visual contrast.

Timber will not be harvested within 250 feet of any cave with a significant bat population. Caves with significant bat populations should have a forested corridor at least 150-200 feet wide between the cave and foraging areas.

The only vegetative management within streamside management zones allowed is that to improve or enhance fish and wildlife habitat or recreational experiences, restore ecosystems, or support societal needs (i.e. public safety, public utilities).

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Fishing lakes, wetlands, ponds, and waterholes may be provided. Where water is lacking, provide as many as two waterholes per square mile of National Forest land.

Average trail density will be 2.5 miles per square mile or less.

Though the Forest is managed primarily for diversity and plant and animal habitat, timber is also managed for high-quality hardwood to be used in lumber, furniture, and veneer. Management is a balance of uneven-aged and even-aged systems dependent on site-specific characteristics and plant and animal habitat diversity needs.

Opening size in a group selection harvest will be no more than 1 acre. Clearcut opening size will not exceed 5 acres for hardwood areas; 10 acres for pine. Shelterwood harvests will not exceed 10 acres for all species. Temporary openings created by clearcuts and shelterwood cutting will be of irregular, natural appearing shapes and conform to the ecological unit.

The primary method of regeneration is through natural means. If adequate stocking (C level or higher), desired species composition and acceptable genetic quality cannot be expected or is not achieved, artificial methods may be used.

Temporary openings may be adjacent to one another if the overall size does not exceed the maximum opening size of 5 acres.

Stand understories may be treated prior to harvest to promote advanced reproduction of desired plant species.

A variety of hardwood species are retained in timber stand improvement and thinning operations.

Thinning, improvement cuts, and timber stand improvement may take place on a site-specific basis.

### **MANAGEMENT AREA 5.1**

Habitat management for fish and wildlife may occur to the extent it is consistent with wilderness management objectives and to meet the needs of Federal endangered, threatened, and sensitive species.

Vegetation manipulation does not generally occur except for trail maintenance, maintenance of cemeteries and the roads to them, including the Terrill Ridge Road, and activities on private land.

Native plants are used for temporary soil stabilization. Annuals are preferred in order to contribute to natural succession.

Soil may be impacted through trail development, use, and maintenance. Soil conditions are considered when accomplishing trail work or other ground disturbing activity.

Pesticides will be used only when necessary to prevent the loss of significant aspects of the designated wilderness, or to prevent significant losses to resource values on private or public lands bordering the wilderness.

During this planning period, wildfires are suppressed using non-mechanical means.

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Other than trails, existing cemeteries, and existing roads to cemeteries, evidence of human activities are not maintained and will be overgrown and dilapidated by natural forces.

Trails are maintained to as low standard as possible while still protecting the resource. Work includes tread maintenance, diversion ditches, sidesloping, and frequent waterbars to divert water from trails and maintain adequate trail drainage. Brushing and removal of trees that fall across the trails are allowed. Vegetative material removed from the tread area is scattered to look unobtrusive. Drainage facilities are made to look natural.

There will be no additional roads in Management Area 5.1.

Timber management is not appropriate in this management area.

### **MANAGEMENT AREA 6.2**

Management activities permitted for wildlife are only those needed to protect endangered, threatened, and sensitive species.

Hiking, mountain bicycle, and horse trails with associated trailheads may be provided.

Average trail density will be 2.0 miles per square mile or less.

Dispersed trailheads with minimal facilities may be provided.

Other recreation developments are minimal, and limited to those which prevent site deterioration or protect the user from health hazards. Except at trailheads, there will be no developments for user's convenience.

Timber production is not suited in these areas. However, the option of salvage activity is retained, but would be used only after full public involvement and determination that salvage would be consistent with the desired future condition of the management area.

### **MANAGEMENT AREA 6.4**

Natural succession is the dominant process affecting vegetation in this area.

Barrens, glades, and other natural dry forest communities may be restored and maintained to protect and enhance rare species and communities.

Existing forest openings with value for wildlife, vegetation, or recreation may be maintained adjacent to roads required for existing access rights, or specially adapted trails which access rare species or communities. Currently maintained openings may be retained at Mogan Ridge, Lukes Knob, and Felknor Hollow.

Management activities needed to protect endangered, threatened, and sensitive species and their habitats will be done.

Existing ponds, lakes and wetlands may be maintained.

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Use of roads within the Management Area is limited to the occasional use for administrative reasons and are open to foot travel.

Average density will be 2.0 miles per square mile or less.

Developments are minimal and limited to those which prevent site deterioration or protect the user from health hazards. Except at trailheads, only minimum standard developments are provided for user's convenience.

No additional road needs for the Forest Service are anticipated in Management Area 6.4, with the exception of roads associated with development of trailheads, parking lots, and other recreation facilities around the perimeter of these areas.

This management area is not included in lands suitable for timber production. Commercial harvesting or other timber management activities generally are not planned except where the use is determined to be the best way to provide effective means to achieve desired resource conditions.

### **MANAGEMENT AREA 7.1**

Maintain snag and den trees in order to enhance the chances of people seeing wildlife, unless they present a hazard or reduce scenic values.

Selective treatment of vegetation on transmission line rights-of-way will be favored to improve wildlife forage and perpetuate a variety of native plant species and communities.

Habitat developments such as lakes, ponds, waterholes, wetlands, and forest openings are permitted.

Pesticides may be used to control undesirable vegetation such as poison ivy and stinging nettles in the campground and along trails. Submergent aquatic vegetation in the area of swimming beaches will also be controlled. Pesticides used to control stinging insects, ticks, or chiggers are appropriate for use directly around facilities.

Prescribed fire may be used to establish or maintain vegetation under established resource management prescriptions.

Location of new recreational developments will be determined with priority given to correcting health and safety problems, protecting the environment, complementing prescribed recreation opportunities, and meeting public preferences.

Vegetative management in these areas focuses on hazard tree removal, flower, nut, or berry production, scenic enhancement, and specific area objectives, such as tight canopy with open forest floor, or producing larger trees. Mowing is common in high-use areas.

Hiking, horse, mountain bicycle, interpretive, and service trails may be provided, and will be maintained to a high standard.

A transportation system is planned as part of the recreation development, and is designed and constructed to safely and comfortably accommodate both specialized recreation vehicles and associated service vehicles.

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This management area is not suited for timber production.

Utility lines and pipelines generally will be buried.

### **MANAGEMENT AREA 8.1**

Management of vegetation occurs only if it is compatible with the purpose of designation and is covered in the Management Plan for the area.

Pesticides may only be used if they are compatible with the regulations designating the area. A specific environmental assessment would be completed if pesticides were used.

This management area is not suited to timber production. No timber management practices will occur unless necessary to maintain the vegetation for which the area was established, or associated with research projects allowed in the RNA management plan.

### **MANAGEMENT AREA 8.2**

With appropriate analysis and public involvement, management activities essential for perpetuation of special features, such as unique ecosystems, may take place prior to final development of an area management plan.

As possible and practical, biological diversity of Special Areas and of adjoining ecosystems in which they may be included, will be inventoried and evaluated.

Management activities will occur as needed to protect endangered, threatened, and sensitive plant and animal species.

Vegetation management will occur only to accomplish the purpose of Special Area designation. In accordance with area objectives, natural plant and animal communities, including rare and unusual species and communities, or other special features within them will be perpetuated.

Disturbed portions of sites shall be restored to native plant communities typical of the surrounding area. Restoration of communities may be accomplished by activities such as burning, cutting, seeding, or planting.

Existing research plots will remain active until research study is complete, unless they jeopardize the intent of the special area designation. Within these research plots, individual trees may be cut for study purposes.

As possible and practical exotic (non-native/alien) species of plants will be eliminated or controlled. Vegetation control may include prescribed burning, girdling, cutting, or hand-pulling. Use of herbicides would occur only after it has been demonstrated to be the only option and is necessary to perpetuate the desired community.

Caves and karst hydrologic systems that have been choked with debris and/or sediment will be restored where practical.

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This management area is not suited to timber production. No timber management practices will occur unless necessary to maintain the vegetative character or unique ecosystem for which the area was established.

Only those special uses which meet the intent of the objectives designating the area are permitted.

Surface-disturbing mineral activities are not compatible with objectives of this Management Area and will not be allowed.

### **MANAGEMENT AREA 8.3**

Maintenance and establishment of wildlife habitat developments are allowed.

This area is not suited to timber production. However, timber management will occur for research objectives. Timber management systems will vary; all types of harvest methods could be used. Surface disturbing mineral activities are not compatible with objectives of this Management Area and will not be allowed.

### **MANAGEMENT AREA 9.2**

Vegetation management will not occur unless needed to protect adjoining lands from pests or fire, or to protect the resources and existing investments.

Research plots will remain active until research studies are complete unless they jeopardize the intent of the potential special designation. Within these research plots, individual trees may be cut for study purposes.

The compatibility of trails for hiking, mountain bicycles, and horse use will be determined in the appropriate management plan, pending designation.

This management area is not suited for timber production. No timber management practices will occur unless necessary to maintain the vegetation or character for which the area was proposed, or associated with on-going research projects.

### **MANAGEMENT OPPORTUNITIES**

Within the framework of the six forest plan goals, 19 management opportunities were identified. Management opportunities are generally most closely associated with one goal and serve to address issues, concerns, and challenges associated with that goal. There are supportive relationships that address issues, concerns, and challenges associated with other goals (Draft Environmental Impact Statement 4-2). This list shows the relationship between the 19 management opportunities and the six goals.

#### **Goal: Protect and Manage Ecosystems**

Opportunity: provide for areas which permit forest ecosystems to reach their natural climax conditions.

Opportunity: provide for protection of unique features.

Opportunity: provide for establishing and managing the natural development of plant communities and the environment they dominate.

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Opportunity: provide for manipulating the forest environment through the cutting of trees.

Opportunity: provide for intermediate treatments to trees to enhance their development in the forest environment for silvicultural purposes.

Opportunity: provide for actions to perpetuate openings and shrubland environments.

Opportunity: provide for management, acquisition, and/or construction of wetlands, ponds, and streams.

Opportunity: provide for changing existing vegetative condition through planned ignition of controlled fires.

Opportunity: provide for using biological and chemical pesticides and herbicides to control undesirable insects and vegetation.

Goal: Protect Our Cultural Heritage (This is applied across all goals and opportunities.)

Goal: Provide for Visually Pleasing Landscape

Opportunity: provide for visual management objectives and enhancement of the visual scene through planned actions.

Goal: Provide for Recreation Use in Harmony with Natural Communities

Opportunity: provide places for people who desire undisturbed natural environments, remote from their everyday habitations, where they can visit either in imagination or in person to recreate.

Opportunity: provide for constructing, maintaining, and operating recreation facilities.

Opportunity: provide for constructing, maintaining, and managing Forest roads.

Opportunity: provide for constructing and maintaining trails for hikers, horseback riders, and bicyclists.

Goal: Provide a Useable Landbase

Opportunity: provide for acquiring, exchanging, and managing boundaries of Forest lands.

Opportunity: provides for closing roads through obliteration and/or restriction.

Goal: Provide for Human and Community Development

Opportunity: activities necessary to control unplanned fires.

Opportunity: provide for exploration, drilling, production, transportation, and abandonment of Forest mineral resources where compatible with other uses.

Opportunity: provide for permitting special uses on Forest lands.