

COW KNOB SALAMANDER MANAGEMENT

Forest Wide Direction:

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

Standards For 4FA - Shenandoah Mountain Recommended National Scenic Area:

4FA-012 In areas of Cow Knob Salamander habitat (areas above 3,000 feet elevation), heavy mechanized equipment (e.g. bulldozers and tractors) may be used only if compatible with the values for which the Shenandoah Mountain Crest (8E7) management prescription area was created. The amount of disturbance will be reduced through the use of smaller sized bulldozers and tractors.

8E7 - SHENANDOAH MOUNTAIN CREST

Nearly the entire known range of the Cow Knob salamander (*Plethodon punctatus*) occurs on the George Washington National Forest. This area is located on the North River Ranger District along the crest of Shenandoah Mountain and Great North Mountain, largely above 3,000 feet elevation. Cow Knob salamanders typically reach their highest population densities in older age hardwood forests with abundant large down wood and rock. The U.S. Fish and Wildlife Service and the George Washington National Forest were the first federal agencies in the Nation to enter into a Conservation Agreement in 1994, under a multi-agency Memorandum of Understanding, designed to keep an at-risk species from needing to be listed under the Endangered Species Act. This Conservation Agreement, and accompanying Habitat Conservation Assessment, serves as the guide for management of the Cow Knob salamander. There are approximately 24,000 acres allocated to this management prescription area. Another 23,000 acres of the area established in the Conservation Agreement are located within the recommended National Scenic Area and about 11,000 acres are allocated to Wilderness, Recommended Wilderness Study or Research Natural Areas. A variety of threatened, endangered, and sensitive species and unique natural communities occur on Shenandoah Mountain. This includes at least 15 species of plants and 13 species of animals plus their associated habitats. This area includes the following Virginia Division of Natural Heritage Conservation sites: Cow Knob, Laurel Run, Middle Mountain, and portions of Bother Knob/High Knob, Little Bald Knob, and Reddish Knob.

EMPHASIS

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

DESIRED CONDITIONS FOR 8E7 - SHENANDOAH MOUNTAIN CREST

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

DC 8E7-02: Within this area, habitats are managed to maintain or enhance Cow Knob salamander populations and populations of other threatened, endangered, sensitive, and locally rare (TESLR) species, including the Shenandoah Mountain salamander. The landscape character of this area generally consists of a closed forest canopy of late-successional stages of mixed hardwoods on upper slopes combined with coves and riparian areas with eastern hemlock, tulip poplar, and rhododendron thickets. Within this matrix of mostly closed canopy forest is a mosaic of dry oak and yellow pine woodlands in a wide variety of successional stages and structural conditions, with a south to west aspect. Abundant ground cover in the form of rocks, down and decaying logs, and leaf litter are maintained and restored. Open grassy, shrubby areas and areas without vegetation, like roads, trails, and utility rights-of-way are minimized, except where desired for certain TESLR

species and ecological systems. The landscape of the area retains a natural, forested appearance, and the valued character of the natural evolving landscape is intact with no noticeable deviations. The mix of forest communities varies by landtype association, including mixed mesophytic and mesic oak hickory forests dominated by red, white, chestnut, and black oaks, as well as tulip poplar, sugar and red maples, and hemlocks. The overstory is generally closed in forested conditions with minimal sunlight reaching the forest floor; however, naturally occurring brushy and herbaceous openings may occasionally be found. Natural processes eventually result in a large patch old growth forest matrix throughout much of the area. Cavity trees, standing dead trees, and down logs are common throughout the entire area as a result of natural mortality combined with gypsy moth killed trees. All forested blocks are interconnected by corridors which themselves have a continuous forest cover. Wildlife species associated with area-sensitive mid- to late-successional deciduous forest habitats are expected to inhabit this area.

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

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

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

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

STANDARDS FOR 8E7 - SHENANDOAH MOUNTAIN CREST

Terrestrial and Aquatic Species

8E7-001 Watershed improvement projects are developed and implemented on areas where erosion is

human-caused, but not normally undertaken in response to natural processes occurring on the area.

8E7-002 Maintenance or creation of wildlife habitat improvements is allowed except for those activities that would negatively impact Cow Knob salamander habitat.

8E7-003 The creation of new edge habitat for management of game species should be minimized, and is allowed as a wildlife management tool only in areas of habitat unsuitable for the Cow Knob salamander.

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

Vegetation and Forest Health

8E7-005 Native forest insect and disease outbreaks are controlled only to prevent unacceptable damage to resources on adjacent land or to protect threatened, endangered, sensitive, or locally rare species. Non-native, invasive insects and diseases may be eradicated or suppressed to prevent a loss of the special biological community. Favor biological control methods.

8E7-006 Control or eradicate non-native invasive plants using hand-applied herbicides, with Forest Supervisor approval, when necessary.

8E7-007 Control non-native invasive animals, insects, and diseases where they are causing negative effects to rare communities. Do not introduce non-native species in or near rare communities, unless it is a natural enemy of a non-native pest.

Timber Management

8E7-008 These lands are classified as unsuitable for timber production.

8E7-009 Salvage of dead or dying trees using ground-based systems may occur for safety or scenic rehabilitation along open road systems.

8E7-010 Cutting of insect damaged, wind thrown, and fire killed trees which pose a safety or maintenance concern, may be conducted within 100 feet of the center of existing open roads. Non-commercial firewood cutting may be permitted with this same corridor, but only following salamander surveys indicating the area is not of significance to the Cow Knob salamander.

Non-timber Forest Products

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

Wildland Fire Management

8E7-012 Vegetation management may be accomplished with wildland fire management.

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

Recreation

8E7-014 Modify recreation sites or trails to reduce or eliminate negative effects where recreational uses are negatively affecting threatened, endangered, sensitive, and locally rare species. New and improved recreational developments are designed to avoid adverse effects to threatened, endangered, sensitive, and locally rare species.

8E7-015 These areas are unsuitable for designation as All-Terrain Vehicle use areas.

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

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

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

Scenery

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

Minerals

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

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

8E7-022 Private mineral rights exist in some of these areas. Roads, wells, and other necessary infrastructure associated with these rights are allowed. Requests for access to a non-Federal interest in lands pursuant to a reserved or outstanding right are recognized, and reasonable access is granted. Encourage such interests to minimize disturbance to threatened, endangered, sensitive, and locally rare species habitat.

Roads

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

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

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

Lands and Special Uses

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

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

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

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

Additional Direction

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

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

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

Roads may not be constructed or reconstructed unless:

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