

**BIOLOGICAL EVALUATION OF
REGIONAL FORESTER'S SENSITIVE SPECIES**

**Upper Brushy Stewardship Project
Wildlife Habitat Improvement Project
Midstory Removal**

**Bankhead National Forest
Winston & Lawrence Counties, Alabama**

Deciding Officer: District Ranger Glen D. Gaines
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SUMMARY: The purpose of the project is to remove midstory and understory vegetation from 7 areas in the Upper Brushy Watershed in Winston and Lawrence counties. The purpose and need of the project are to improve wildlife and native plant habitat, to facilitate restoration of native forest communities, specifically fire adapted woodlands, and to reduce hazardous fuels. This project is part of the Upper Brushy Stewardship Project.

This project will have no impact on the Regional Forester's Sensitive species for the Bankhead National Forest.

INTRODUCTION: This Biological Evaluation (BE) addresses the effects of the following activity on federally-listed Proposed, Endangered, Threatened and Sensitive species on the Bankhead National Forest. The project proposal is to remove midstory and understory vegetation. The purpose and need of the project are to improve wildlife and native plant habitat, to facilitate restoration of native forest communities, specifically fire adapted woodlands, and to reduce hazardous fuels. Midstory and understory vegetation trees and shrubs will be removed from 7 areas in the Upper Brushy Watershed. Treatment includes both hand tool (chainsaw) and mechanical (mulching machine) midstory reduction.

Proposed Treatment Areas – Upper Brushy Stewardship Project – Midstory Removal			
Compartment	Stand	Acres	Treatment Method
31	2, 3 & 4	181	Mulch
21	8	50	Chainsaw/Mulch
21	19	61	Chainsaw/Mulch
32	10	27	Chainsaw
32	19	70	Chainsaw
38	2	32	Chainsaw/Mulch
33	13	70	Chainsaw

The purpose of this Biological Evaluation (BE) is to determine whether the proposed action is likely to affect an endangered, threatened, proposed, or sensitive species. Forest Service Manual 2672.4 provides guidance to review programs and activities for possible effects to proposed, endangered, threatened, and sensitive species and to document findings. The objectives of this Biological Evaluation are to ensure that Forest Service actions do not contribute to loss of viability of any native or desired non-native plant or animal species or contribute to

trends toward Federal listing of any species; to comply with the requirements of the Endangered Species Act that actions of Federal agencies not jeopardize or adversely modify critical habitat of Federally listed species; and to provide a process and standard by which to ensure that threatened, endangered, proposed, and sensitive species receive full consideration in the decision-making process.

The project will reduce selected midstory and understory trees and shrubs from seven areas. Compartment 38, Stand 2 and Compartment 32, Stand 19 are mature mixed pine hardwood stands. Compartment 21, Stands 8 and 19; Compartment 31, Stand 3; Compartment 32, Stand 10; and Compartment 33, Stand 13 are mature loblolly pine stands. All treatment stands are managed with regular short-rotation prescribed burning. The midstory and understory will be reduced by cutting with chainsaws or grinding with a mulching machine. The areas are proposed for treatment between 2009-2012. The result will be open pine and pine-hardwood stands with reduced fuel loading. The result will allow for restoration and maintenance of native fire adapted woodlands. The treatment areas are upland sites and do not include streams. No rare communities will be treated by this project.

Midstory and understory vegetation in the treatment stand are composed primarily of hardwood saplings (tulip poplar, various oak species, red maple, hickories, sassafras, black cherry, dogwoods, sourwood, persimmon); shrubs (*Vaccinium* spp., sumac, oak leaf hydrangea, bicolor lespedeza); and vines (*Smilax* spp., *Vitis* spp., *Rubus* spp., Virginia creeper, poison ivy).

The treatment units are within the Upper Brushy Stewardship Project Area and are within the Upper Brushy Creek 5th level watershed. The Upper Brushy watershed is characterized by gently sloped ridges and pronounced valleys. Many of the larger streams are incised in picturesque gorges. Landscape character includes rural and naturally appearing landscapes. Virtually the entire watershed is forested. National Forest land occupies about 8/10th of the area.

The Upper Brushy Stewardship Project Area is within Management Prescription 7E2, Dispersed Recreation Areas with Vegetation Management, as defined in the Revised Land and Resource Management Plan for the National Forests in Alabama (RLRMP), 2004. The emphasis in 7E2 is on management that provides a variety of dispersed recreation opportunities, improving settings for outdoor recreation, and enhancing visitor experiences, in a manner that protects and restores the health, and diversity of the land. Timber harvest and vegetative manipulations are used to achieve recreational, wildlife, ecosystem restoration, or aesthetic values. All units proposed for midstory removal, except Compartment 38, Stand 2, are within Area 2 as identified in the Bankhead’s Forest Health & Restoration Project (FHRP) Environmental Impact Statement, 2003. The desired conditions in the uplands in Area 2 are shortleaf pine woodlands and oak and oak-pine woodlands. Compartment 38, Stand 2 is within Area 1 where the desired conditions in the uplands include oak forest, oak-pine forest, and oak woodlands.

See the Biological Evaluation for federally listed species for a map of this project.

The Bankhead National Forest is located within the northwest corner of Alabama and lies within Lawrence, Winston and Franklin counties. It is comprised of approximately 181,470 acres of forestland. The forest cover varies in both cover type and age class but is mostly a mixture of mature hardwoods and pine. The proposed project is located in the southern portion of Bankhead National Forest, in the Black Pond community, in Winston County. The proposed project area is southeast of Double Springs, AL near Lewis Smith Lake.

SENSITIVE SPECIES EVALUATED:

District Wildlife Biologist Tom Counts and Biological Scientist Allison Cochran have conducted field reviews of the project sites on February 13, 20, and 23, 2009 and during the spring and summer of 2008. The Bankhead National Forest (BNF) district office keeps current records of locations of known listed species throughout the area which were reviewed as part of this evaluation. Federally listed and Forest Service sensitive species are not known from the treatment areas. This evaluation considered species range, life history information, available habitat information, and known locations to determine which species to evaluate.

A list of the Regional Forester’s Sensitive Species (2001, revised 2007) that may occur or are known to occur on Bankhead National Forest (BNF) and must be evaluated for potential effects of management are as follows:

Scientific Name	Common Name	Taxonomic Group	Rank	Habitat	Bankhead NF Distribution
<i>Helianthus eggertii</i>	Eggert's sunflower	Plant	S1G3	6	FP
<i>Aesculus parviflora</i>	Small flowered buckeye	Plant	S3G3	18	F1/FP
<i>Astragalus tennesseensis</i>	Tennessee Milkvetch	Plant	S1S2G3	6	FP
<i>Aureolaria patula</i>	Spreading yellow false foxglove	Plant	S1G3	7	FP
<i>Carex brysonii</i>	Bryson's sedge	Plant	S1G1	18	F1
<i>Delphinium alabamicum</i>	Alabama larkspur	Plant	S2G2	6	F1
<i>Diervilla rivularis</i>	Riverbank bush-honeysuckle	Plant	S2G3	11	F1
<i>Hymenophyllum tayloriae</i>	Gorge filmy fern	Plant	S1G2	7	F1
<i>Jamesianthus alabamensis</i>	Alabama jamesianthus	Plant	S3G3	11	F2
<i>Juglans cinerea</i>	Butternut	Plant	S1G4	18	F1
<i>Leavenworthia alabamica</i> <i>var. alabamica</i>	Alabama Gladecress	Plant	S2G2	6	FP
<i>Leavenworthia crassa</i>	Fleshyfruit Gladecress	Plant	S1G1	6	F1
<i>Lesquerella densipila</i>	Duck River Bladderpod	Plant	S1G3	6	FP
<i>Monotropsis odorata</i>	Sweet pinesap	Plant	S1G3	17	F1
<i>Asplenium x ebenoides</i>	Scott's Spleenwort	Non-vascular Plant	S1	7	FP
<i>Marshallia trinervia</i>	Broadleaf Barbara's buttons	Plant	S3G3	11	F1
<i>Minuartia alabamensis</i>	Alabama Sandwort	Plant	S2G2Q	6	FP
<i>Neviusia alabamensis</i>	Alabama snow-wreath	Plant	S2G2	6	FP

Upper Brushy Stewardship Project – Wildlife Habitat Improvement – Midstory Removal
Regional Forester’s Sensitive Species BE

<i>Platanthera intergrilabia</i>	White fringed orchid	Plant	S2G2G3	2	F1
<i>Polymnia laevigata</i>	Tennessee Leafcup	Plant	S2S3G3		FP
<i>Robinia viscosa</i>	Clammy Locust	Plant	SNR G3	17	F1
<i>Rudbeckia triloba var pinnatifida</i>	Pinnate-lobed Black-eyed Susan	Plant	S2S3G5T3	7, 18, 11	F1/FP
<i>Scutellaria alabamensis</i>	Alabama skullcap	Plant	S2G2	7, 18	F1/FP
<i>Sedum nevii</i>	Nevius' stonecrop	Plant	S3G3	7	F1
<i>Silene ovata</i>	Blue Ridge catchfly	Plant	S2G3	7	FP
<i>Talinum calcaricum</i>	Limestone Fameflower	Plant	S2G3	6	FP
<i>Talinum mengesii</i>	Menge's fameflower	Plant	S2S3G3	6	F1
<i>Thalictrum mirabile</i>	Little mountain meadow rue	Plant	S2G4	7	F1
<i>Trillium lancifolium</i>	Lanceleaf Trillium	Plant	S2S3G3	11	F1/FP
<i>Trillium simile</i>	Jeweled Trillium	Plant	G3	18	FP
<i>Speyeria diana</i>	Diana Fritillary	Insect	S2G4	11	FP
<i>Corynorhinus rafinesquii</i>	Rafinesque's Big-eared bat	Mammal	G3G4S2	10	FP
<i>Cheilolejeunea evansii</i>	A liverwort	Non-vascular Plant	S1G1	11	F1
<i>Aneura maxima</i>	A liverwort	Non-vascular plant	G4	11	F1
<i>Pellia X appalachiana</i>	A liverwort	Non-vascular plant	G4	11	F1
<i>Plagiochila echinata</i>	A liverwort	Non-vascular plant	GNR	11	F2
<i>Radula sullivantii</i>	A liverwort	Non-vascular plant	G3	11	F1
<i>Riccardia jugata</i>	A liverwort	Non-vascular plant	G2	11	F1
<i>Hydroptila parlatosa</i>	A caddisfly	Insect	S2G2	A	F1
<i>Rhyacophila carolae</i>	A caddisfly	Insect	S1G1	A	F1
<i>Elliptio arca</i>	Alabama spike	Mussel	S2G2G3	A	F1
<i>Obovaria jacksoniana</i>	Southern Hickorynut	Mussel	S1S2G2	A	FP
<i>Obovaria unicolor</i>	Alabama	Mussel	S2G3	A	FP

Upper Brushy Stewardship Project – Wildlife Habitat Improvement – Midstory Removal
 Regional Forester’s Sensitive Species BE

	Hickorynut				
<i>Strophitus subvexus</i>	Southern creekmussel	Mussel	S3G3	A	F1
<i>Villosa nebulosa</i>	Alabama rainbow	Mussel	S3G3	A	F1
<i>Etheostoma bellator</i>	Warrior darter	Fish	S2G2	A	F1
<i>Etheostoma douglasi</i>	Tuskaloosa darter	Fish	S2G2	A	F1
<i>Etheostoma phytophilum</i>	Rush darter	Fish	S1G1	A	F1
<i>Etheostoma tuscumbia</i>	Tuscumbia darter	Fish	S2G2	A	FP
<i>Percina sp.cf.macrocephala</i>	Longhead darter (Warrior Brinled Darter)	Fish	G3	A	F1
<i>Necturus alabamensis</i>	Black Warrior waterdog	Amphibian	S2G2	A	F1
<i>Lasmigona complanta alabamensis</i>	Alabama Heelsplitter	Mussel	G5T2	A	FP
<i>Haliaeetus leucocephalus</i>	Bald Eagle	Bird	S3G5	11	F1
Habitat Code 1 = Cave Habitats 2 = Wetland (Bog) Habitats 6 = Glades, Prairies, and Woodlands Habitats 7 = Rock Outcrop and Cliff Habitats 8 = Grass/Forb Habitats 10 = Mid- to Late- Successional Deciduous Forest Habitats 11 = Forest Riparian Habitats		12 = Habitat Generalist 13 = Area Sensitive Mid- to Late- Successional Deciduous Forest Habitats 17 = Southern Yellow Pine Forests and Woodland Habitats 18 = Mixed Mesic Forest Habitats 19 = Mixed Xeric Forest Habitats 20 = Shrub/Seedling/Sapling Habitats 21 = Seeps and Springs Habitats A = Aquatic Species			
Status - T=Threatened; E= Endangered; C=Candidate; S=Sensitive(USFS Southeast Region, 2001 Revision) CH=Critical Habitat designated. Distribution- FP=Forest Potential, No Known Occurrences;F1=1-5 known occurrences; F2=6-20 known occurrences; f3=21-100 known occurrences; FH = Forest Historic					

This list of Regional Forester’s Sensitive Species to be considered and evaluated for Bankhead National Forest projects was derived from the BA and BE for implementation of the Forest Plan (2004). **Species shaded in dark gray in the above tables will not be affected by the proposed project.** No impacts are expected to these species or their known or potential habitats. Habitats and/or occurrences of the species within the dark gray shaded areas are outside of the project area or will not be affected by the project. These determinations of “no impact” are possible because the proposed action does not include any activity within the habitats where these species are known to occur. No sensitive species were found in the project areas during field reviews.

Sensitive Species Analyzed:

Black Warrior Waterdog (*Necturus alabamensis*)

This species is a candidate for federal listing and was analyzed in the Biological Evaluation for this project. The finding is “no impact” and the rationale can be found in the Biological Evaluation for Wildlife Habitat Improvement Project, Midstory Removal, for the Upper Brushy Stewardship Project.

**Tuskaloosa Darter (*Etheostoma douglasi*)
 Environmental Baseline**

Tuskaloosa darter is found in streams with moderate to swift flow. It will be found in cobble, gravel and slab riffles. It has been collected in Sipsey Fork, Borden Creek, Rush Creek and Capsey Creek in the Bankhead. This species was not collected during Biomonitoring in the Upper Mulberry Fork Watershed, 1999-2001 conducted by Geological Survey of Alabama. Potential habitat is available in the Upper Brushy 5th Level HUC watershed, where this project will occur.

The Tuskaloosa darter has a small range and limited number of occurrences, but it is abundant where it does occur. The populations are considered to be stable. Threats include timber practices, coal mining, proposed reservoirs, and siltation resulting from increased urbanization.

Potential Management Effects and Determination

Stream habitat is not present within the areas proposed for midstory removal. Mulching equipment will not be operated in riparian areas or on water saturated soils. There will be no effects to aquatic habitats as a result of this project; therefore there is no opportunity for direct or indirect impacts to Tuskaloosa darter. Indirect and cumulative effects may include the potential for siltation due to erosion. RLRMP standards are in place to prevent, reduce and control erosion. Standards regarding riparian areas, riparian corridors, and streamside management zones are outlined in the Revised Land and Resource Management Plan (RLRMP) and will protect aquatic species.

This project will have no impact on Tuskaloosa darter, based on project plans and RLRMP standards.

Mussels

Alabama Spike (*Eliptio arca*)

Southern Creekmussel (*Strophitus subvexus*)

Alabama Rainbow (*Villosa nebulosa*)

Environmental Baseline

The southern creekmussel occurs in a variety of habitats, ranging from small creeks to large rivers, where it may be found in pools or areas with moderate current. It is most common in mid-channel river habitats in most of its range. These habitats are threatened by excess sedimentation, channel modifications, impoundments, water withdrawals, urbanization and point and non-point pollution. This mussel may occur in sandy mud, sand and sandy gravel. It appears to be confined to the Black Warrior and Tombigbee River drainages of Alabama and Mississippi. The southern creekmussel has been documented by McGregor in the northern portion of Bankhead. It has been collected in the Upper Brushy watershed in the vicinity of the Upper Brushy Stewardship Project area.

The Alabama rainbow primarily inhabits small headwater streams. This species probably requires clean gravel riffles, low turbidity, and some water flow. Potential and occupied habitat for this mussel is available on Bankhead. It has been collected in the northern portion of the Bankhead by McGregor. There is an element of occurrence record for Alabama rainbow in the Upper Brushy watershed in the vicinity of the project area. It is known to occur in Winston, Lawrence, Madison, Marshall and Jackson counties in Alabama. The species was historically widespread in the Black Warrior, Cahaba and Coosa River drainages above the Fall Line. This mussel is extant in a few isolated tributary populations, including headwaters of Sipsey Fork in the Bankhead and scattered tributaries of the Coosa River.

The Alabama spike has also been collected in the northern portion of the BNF by McGregor. This species is known to occur in high gradient streams. Data are limited on population trends for the Alabama spike throughout its range. Additionally, some taxonomic confusion and lack of status surveys contribute to the lack of abundance data. The Alabama spike (*Elliptio arca*) may be the same species as the delicate spike (*Elliptio arctata*). This mussel is locally common within the Sipsey River. Potential habitat is available within the project watershed.

Potential Management Effects and Determination

The proposed project will not be conducted within nor affect aquatic habitats. There are no streams present within the areas proposed for treatment; therefore, there is no opportunity for direct impacts to these aquatic

species. Indirect and cumulative effects may include the potential for siltation from erosion as a result of this project. Project plans and mitigations will alleviate any adverse effects to potential habitat within the project watershed. Project plans include not operating mulching equipment within riparian areas or on water saturated soils. Standards regarding riparian areas, riparian corridors and streamside management zones are outlined in the Revised Land and Resource Management Plan for the National Forests in Alabama. These standards are in place to protect water quality, aquatic species and the terrestrial and aquatic ecosystems associated with streams, seeps, ponds, bogs, and springs.

Based on project plans and RLRMP standards, this project will have no impact on southern creekmussel, Alabama rainbow or Alabama spike.

**Eggert’s Sunflower
Environmental Baseline**

This sunflower is known only from the Interior Low Plateaus of Kentucky, Tennessee, and Alabama. This sunflower is found growing in colonies in open oak/pine woodlands, grassy openings and barrens with shallow soils (barrens/woodland ecosystem). Habitat has been described as rocky hills, barrens or open upland oak-pine woods. It is believed to be an early successional species that is shade-intolerant. It is also reported that this sunflower requires disturbance, such as fire, for germination and habitat maintenance. The habitat it is known from is described as a barrens/woodland ecosystem that is maintained by fire and drought. This habitat type was presumably more widespread when fire and free-roaming grazing animals were more common on the landscape.

In the southeast, large areas with scattered trees and abundant stands of native grasses and flowering herbaceous plants are no longer common. This community persists on roadsides and recently disturbed areas. This plant has not been encountered on the Bankhead National Forest, but suitable habitat exists. This species is not listed as occurring in Winston County by the Fish and Wildlife Service. In Alabama, this species has been recorded in Franklin County in open ridgetop oak savannahs.

Across its range, most of this plant’s natural habitat has been converted to cropland or pasture or developed as residential or commercial sites. This species is found in disturbed areas such as road rights-of-ways. In these locations, the plants present may be threatened by road maintenance activities. Other known habitat is currently threatened by weedy and woody succession. The foreseeable threat with the greatest impact is habitat degradation/loss. This species is threatened by loss of barrens habitat due to lack of periodic fire. Because of fire suppression, sites are threatened by weedy and woody succession. Other threats to this species are conversion of the habitat for other uses, roadside and powerline maintenance including herbicide spraying and inappropriately timed-mowing, invasive exotic plants, and herbivory. The plant is known to respond positively to management activities including burning and mowing. Herbicide applications (using appropriate procedures) may also be beneficial in eliminating invasive species.

Habitat is not currently available for this plant within any of the project sites.

Potential Management Effects and Determination

A detrimental impact to the species is not expected or anticipated due to the fact that the plant has not been encountered on the Forest. This species was not encountered at the project sites; therefore, there will not be direct effects. Indirect and cumulative effects include the potential for increasing the available habitat on the forest over the long term. These effects will not be on individuals, but are effects on the amount of available habitat. The indirect effects may be realized at the treatment stand. The cumulative effects may be realized across the forest landscape. When considering these project sites in conjunction with additional sites identified for restoration to upland woodland communities through the Forest Health and Restoration Project (roughly 6000 acres), the cumulative effects of restoring potential habitat for woodland species, including Eggert’s sunflower, will be beneficial.

The proposed project will have no impact on Eggert’s sunflower.

Sweet Pinesap

Environmental Baseline

This small saprophytic plant is often found in dry sandy (acidic) woods, and is usually found in pine and mixed pine/hardwood stands. It is most often found under pines, giving rise to the common name. It has been reported as being saprophytic on pine roots, and the bases of pine trees. It has also been reported to occur in mixed deciduous hardwood pine stands. It occurs in the south in the mountain foothills and piedmont areas. Given the community association of occurrence, the sweet pinesap should be a fire tolerant, if not fire dependent species. The community type, in addition to a frequent fire regime, historically tended to a more open canopy, with occasional gap dynamics creating openings in the canopy cover.

The proposed treatment areas provide suitable habitat for sweet pinesap as they are upland pine stands. None of this potential habitat within the project site is currently occupied by sweet pinesap.

Sweet pinesap has a limited distribution and is rare throughout its range. Loss of forested habitat is a threat to this species.

Potential Management Effects and Determination

No plants were observed in the project areas. Actions associated with this project will not be detrimental to sweet pinesap because it is not present. The proposed project may benefit sweet pinesap in the long term by restoring the pine woodland community it is associated with.

The project will have no impact on sweet pinesap.

Clammy Locust

Environmental Baseline

Clammy locust is known from the eastern United States and Europe. The shrub is probably native only to the mountains of western North Carolina and Tennessee, and perhaps southern Virginia, Georgia, and Alabama. It has been introduced in other parts of the country. This shrub has been observed growing in rocky woods in Winston County. Other habitat descriptions include thin woods, open places, ridgetops, dry rocky mountain longleaf pine forests, and open woodland or savannah settings. Clammy locust occurs on dry sandy soils, rocky slopes, and around small drainheads. It is shade tolerant to some degree.

It is reported to be present in a wildlife opening on Bankhead National Forest. Dr. Jimmy Huntley confirmed the presence of clammy locust in the wildlife opening. No other locations of this species are known on the BNF.

Lack of disturbance leading to succession and unknown causes of decline are moderate threats to this species.

Potential Management Effects and Determination

No plants were observed in the project areas. Actions associated with this project will not be detrimental to clammy locust because suitable habitat is not present currently. Management activities used to achieve woodland restoration should improve habitat conditions for clammy locust and other woodland species.

The project will have no impact on clammy locust.

Rafinesque’s Big-eared Bat

Environmental Baseline

This mammal uses abandoned, dilapidated buildings and large hollow trees in or near wooded areas as sites for nursery colonies and summer roosts. According to E. D. Pierson, this species may form roosts under loose sloughing bark of dead and dying trees, in addition to roosts formed in tree cavities. This bat may roost singly, in small clusters, or in large groups of up to 100 or more individuals. Bridges have been shown to be important day-roost sites in some areas. Summer roosts may also occur in the twilight zone of caves and mines.

Winter roosts include old mines, caves, cave entrances, cisterns and wells in the northern part of its range. According to Best et al., this species usually is not found hibernating in caves in the southern part of its range (1999). In Kentucky, shallow caves or rock shelters in sandstone formations of the Cumberland Plateau are used.

Foraging habitat for this bat has been described as primarily mature forests in both upland and lowland areas. Rafinesque’s big-eared bat is reported to forage in brushy communities, mature bottomland hardwood, swamp forests, and 3 to 5 year old pine plantations in a study of the Savannah River Site.

Despite records of large number of occurrences of this species throughout its range, it has never been considered abundant. This bat roosts in small numbers at scattered locations. It is known or suspected to be declining in more than half of the states within its range. In most other states, data are unavailable to determine population trends. The range of this species approximates the historical range of the great cypress swamps, indicating that it may have relied on these sites for roosting and foraging.

This species is very intolerant of disturbance and may abandon roost sites or hibernation sites if disturbed. Threats to Rafinesque’s big-eared bat include forest destruction, hollow tree removal during forest management, decreasing availability of abandoned buildings, possibly insecticides, vandalism of caves and mines, and closing or blasting of mines.

Potential Management Effects and Determination

Rafinesque’s big-eared bat has never been documented on BNF, although potential habitat is present within the BNF.

Roost sites will not be disturbed by this project. Rock shelters, bridges, buildings, cisterns, wells, or caves are not present within, nor will they be impacted by the project. Den trees and snags that may provide potential roost habitat will not be removed during project operations. Only midstory trees, saplings, and shrubs will be treated. Potential foraging habitat, described as mature forests, is present and will be present upon project completion.

There will be no impact to Rafinesque’s big-eared bat.

Regional Forester’s Sensitive Species with Determinations:

<i>Regional Forester’s Sensitive Species Determinations for Implementation of the Proposed Action.</i>		
Scientific Name	Common Name	Determinations of Effect
<i>Aesculus parviflora</i>	Small flowered buckeye	No Impact
<i>Astragalus tennesseensis</i>	Tennessee Milkvetch	No impact
<i>Aureolaria patula</i>	Spreading yellow false foxglove	No Impact
<i>Carex brysonii</i>	Bryson’s sedge	No Impact
<i>Delphinium alabamicum</i>	Alabama larkspur	No Impact
<i>Diervilla rivularis</i>	Riverbank bush-honeysuckle	No Impact
<i>Hymenophyllum tayloriae</i>	Gorge filmy fern	No Impact
<i>Jamesianthus alabamensis</i>	Alabama jamesianthus	No Impact
<i>Juglans cinerea</i>	Butternut	No Impact

Regional Forester’s Sensitive Species Determinations for Implementation of the Proposed Action.		
Scientific Name	Common Name	Determinations of Effect
<i>Leavenworthia crassa</i>	Fleshyfruit Gladecress	No Impact
<i>Lesquerella densipila</i>	Duck River Bladderpod	No Impact
<i>Monotropis odorata</i>	Sweet pinesap	No Impact
<i>Asplenium x ebenoides</i>	Scott’s Spleenwort	No Impact
<i>Marshallia trinervia</i>	Broadleaf Barbara’s buttons	No Impact
<i>Minuartia alabamensis</i>	Alabama Sandwort	No Impact
<i>Neviusia alabamensis</i>	Alabama snow-wreath	No Impact
<i>Platanthera intergrilabia</i>	White fringeless orchid	No Impact
<i>Polymnia laevigata</i>	Tennessee Leafcup	No Impact
<i>Robinia viscosa</i>	Clammy Locust	No Impact
<i>Rudbeckia triloba var pinnatiloba</i>	Pinnate-lobed Black-eyed Susan	No impact
<i>Scutellaria alabamensis</i>	Alabama skullcap	No Impact
<i>Sedum nevii</i>	Nevius’ stonecrop	No Impact
<i>Silene ovata</i>	Blue Ridge catchfly	No Impact
<i>Talinum calcaricum</i>	Limestone Fameflower	No Impact
<i>Talinum mengesii</i>	Menge’s fameflower	No Impact
<i>Thalictrum mirabile</i>	Little mountain meadow rue	No Impact
<i>Trillium lancifolium</i>	Lanceleaf Trillium	No Impact
<i>Trillium simile</i>	Jeweled Trillium	No Impact
<i>Speyeria diana</i>	Diana Fritillary	No Impact
<i>Corynorhinus rafinesquii</i>	Rafinesque’s Big-eared bat	No Impact
<i>Cheilolejeunea evansii</i>	A liverwort	No Impact
<i>Aneura maxima</i>	A liverwort	No Impact
<i>Helianthus eggertii</i>	Eggert’s Sunflower	No Impact
<i>Leavenworthia alabamica var. alabamica</i>	Alabama Gladecress	No Impact
<i>Potamilus inflatus</i>	Alabama Heelsplitter	No Impact
<i>Pellia X appalachiana</i>	A liverwort	No impact
<i>Plagiochila echinata</i>	A liverwort	No Impact
<i>Radula sullivantii</i>	A liverwort	No Impact
<i>Riccardia jugata</i>	A liverwort	No Impact
<i>Hydroptila paralatosa</i>	A caddisfly	No Impact
<i>Rhyacophila carolae</i>	A caddisfly	No Impact
<i>Elliptio arca</i>	Alabama spike	No Impact
<i>Obovaria jacksoniana</i>	Southern Hickorynut	No Impact
<i>Obovaria unicolor</i>	Alabama Hickorynut	No Impact
<i>Strophitus subvexus</i>	Southern creekmussel	No Impact
<i>Villosa nebulosa</i>	Alabama rainbow	No Impact

Regional Forester’s Sensitive Species Determinations for Implementation of the Proposed Action.		
Scientific Name	Common Name	Determinations of Effect
<i>Etheostoma bellator</i>	Warrior darter	No Impact
<i>Etheostoma douglasi</i>	Tuskaloosa darter	No Impact
<i>Etheostoma phytophilum</i>	Rush darter	No Impact
<i>Etheostoma tuscumbia</i>	Tuscumbia darter	No Impact
<i>Percina sp.cf.macrocephala</i>	Longhead darter (Warrior Brinled Darter)	No Impact
<i>Necturus alabamensis</i>	Black Warrior waterdog	No Impact
<i>Haliaeetus leucocephalus</i>	Bald eagle	No Impact

EXPLANATION OF DETERMINATIONS:

Possible Determinations and the Needed Follow-up Actions – The four possible determinations of effects are:

1. “no impact”,
2. “beneficial impact”,
3. “may impact individuals, but not likely to cause a trend to federal listing or loss of viability”,
4. “likely to result in a trend to federal listing or a loss of viability”.

All the possible effects of a proposed action should be included under one of the above determinations. There is no need to consult with the FWS for sensitive species. No action, other than documenting the rationale, is required for determination of “no impact”, “beneficial impact” or “may impact individuals, but not likely to cause a trend to federal listing or a loss of viability”. If the determination is “likely to result in a trend to federal listing or a loss of viability”, the proposed action should be modified to avoid, minimize or rectify the impact.

Consultation Implications: Consultation with the FWS is not required for Forest Service sensitive species.

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