

DECISION MEMO

**Compartment 30, Stand 5 Commercial Thinning Project
FY 2007 - 2008
Bankhead Ranger District
National Forests in Alabama
Winston County**

Decision and Rationale

I have decided to commercially thin 34.5 acres in Compartment 30, Stand 5, located in Section 26 and 27, Township 8 South, Range 7 West in the Owl Creek area of the Bankhead National Forest. The project area is located within Area 1 of the Forest Health and Restoration Project for the Bankhead National Forest and Management Prescription 7.E.2, Dispersed Recreation Areas with Vegetation Management, of the Revised Land and Resource Management Plan for the National Forests in Alabama.

The purpose of this project is to improve and maintain the health of this stand, reduce the risk of Southern Pine Beetle (SPB) infestation, and will be the first step in achieving the Desired Future Condition of Upland Hardwood Woodlands in this stand identified in the Forest Health and Restoration Project EIS ([FHRP](#)).

Over the past decade, the Bankhead National Forest has been experiencing SPB infestations at epidemic levels, primarily in loblolly pine forests. The epidemic peaked in the summer of 2000 and continued at very high levels through 2001. SPB has again become active in 2006. An estimated 18,600 acres of pine forest have been killed during the epidemic years. The epidemic has resulted in large acres of standing dead trees that are a public safety hazard along trails/roads and these areas have increased forest fuel loads that escalate the risk of resource damaging wildfires in the future.



Compartment 30, Stand 5

This action is needed because overstocking in this loblolly pine stand has created an unhealthy stand condition. This condition puts this stand at high risk for attack by SPB. This action will take place during Fiscal Year 2007. This action is tiered to the Forest Health and Restoration Project, National Forests in Alabama, Bankhead National Forest. This stand was inadvertently

omitted from the FHRP Environmental Impact Statement. Thinning compartment 30, stand 5 is in direct support of Alabama A & M University's research on the effects of thinning and prescribed burning on vegetation, wildlife, and soils on Bankhead.

The treatment area is a 27 year old loblolly pine stand. The stand will be thinned to a residual target basal area of 60 ft² per acre. The desired future condition of the stand is hardwood woodlands. Leave trees will be selected from the dominant and codominant crown classes and selection will be based on diameter and species. Species preference will be in the following order, oak species, hickory species, yellow poplar, longleaf pine, shortleaf pine, loblolly pine, Virginia pine.

Category

This action is consistent with FSH 1909.15, section 31.2, Category 12, "Harvest of live trees not to exceed 70 acres, requiring no more than ½ mile of temporary road construction".

- the action includes thinning
- the action will improve habitat for migratory songbirds and eastern wild turkey
- the action will use existing roads
- the action does not include the use of herbicides

I find that the project is appropriate for the categorical exclusion within these categories because no extraordinary circumstances as defined in FSH 1909.15, Section 30.3 (2) exist.

- *Federally listed threatened or endangered species or designated critical habitat, species proposed for Federal listing or proposed critical habitat or Forest Service sensitive species.* The project area has been surveyed for threatened, endangered or sensitive species, the biological evaluation ([BE](#)) was completed and the determination was "Not likely to adversely affect" on T&E species, and concurrence was received by the US Fish and Wildlife Service. The determination on the Regional Forester's sensitive species was "no impact" on these species.
- *Flood plains, wetlands or municipal watersheds.* The project area is not in a flood plain, wetland or municipal watershed.
- *Congressionally designated areas, such as wilderness, wilderness study areas or national recreation areas.* No congressionally designated areas are within the project area.
- *Inventoried roadless areas and research natural areas.* No part of the project area is designated as inventoried roadless area or research natural areas.
- *American Indians and Alaska Native religious or cultural sites, archaeological sites or historic properties or areas.* A cultural resources survey was conducted of the project area in 1988, 1995 and 2006, and no properties that are eligible or potentially eligible for the National Register of Historic Places were found. Therefore, the proposed thinning treatment will have no impact on significant cultural resources.

Public Involvement and Analysis

A scoping notice of the proposed action was published in the *Northwest Alabamian* on December 10, 2005 and a letter was mailed to the district mailing list on December 8, 2005, to notify the general public and ask for comments on the proposal. Formal notice and comment was

published in the Northwest Alabamian on March 4, 2006 and a letter was mailed to the district mailing list on March 1, 2006, to notify the general public and ask for comments on the proposal.

One comment was received in support of the project.

One comment was received from WildLaw on behalf of Wild South. The comment was that the project was appropriate if all necessary surveys are completed prior to treatment.

Archeological and biological surveys have been conducted at the same level using the same methodology as surveys for the Bankhead Forest Health and Restoration Project. A biological evaluation has been completed for TES species. All of the mitigations and guidelines spelled out in the Bankhead FHRP EIS will be followed.

One comment was received from USDI Fish and Wildlife Service with a recommendation to survey the proposed site to ensure protection of TES during project planning and implementation. This has been done and a Biological Evaluation has been prepared.

Findings Required by Other Laws

National Forest Management Act - My decision is based on an analysis of the situation and this area will be treated to promote restoration of upland hardwood woodlands consistent with the Revised Land and Resource Management Plan of the National Forests in Alabama ([RLRMP](#)), Forest-wide Goals and Objectives (pp 2-1 through 2-10), Goal 1 Objective 1.4 and 1.5 (pp 2-9 and 2-10) and Goal 3 (p 2-10); Standards and Guides, FW 2, 3, 5, 7, 8, 11, 14, 17, and 18; Management Prescription 7.E.2, (pp 3-31 through 3-34).

Implementation

Implementation of this decision may begin immediately upon publication of the Notice of Decision in the paper of record (*Northwest Alabamian*).

Administrative Review or Appeal Opportunities

Pursuant to 36 CFR 215.12, this decision is not subject to appeal.

Contact Person

For further information, contact Glen Gaines, Bankhead National Forest, PO Box 278, Double Springs, AL or at (205) 489-5111.

/s/ Glen D. Gaines
GLEN D. GAINES
District Ranger
Bankhead National Forest

November 1, 2006
Date

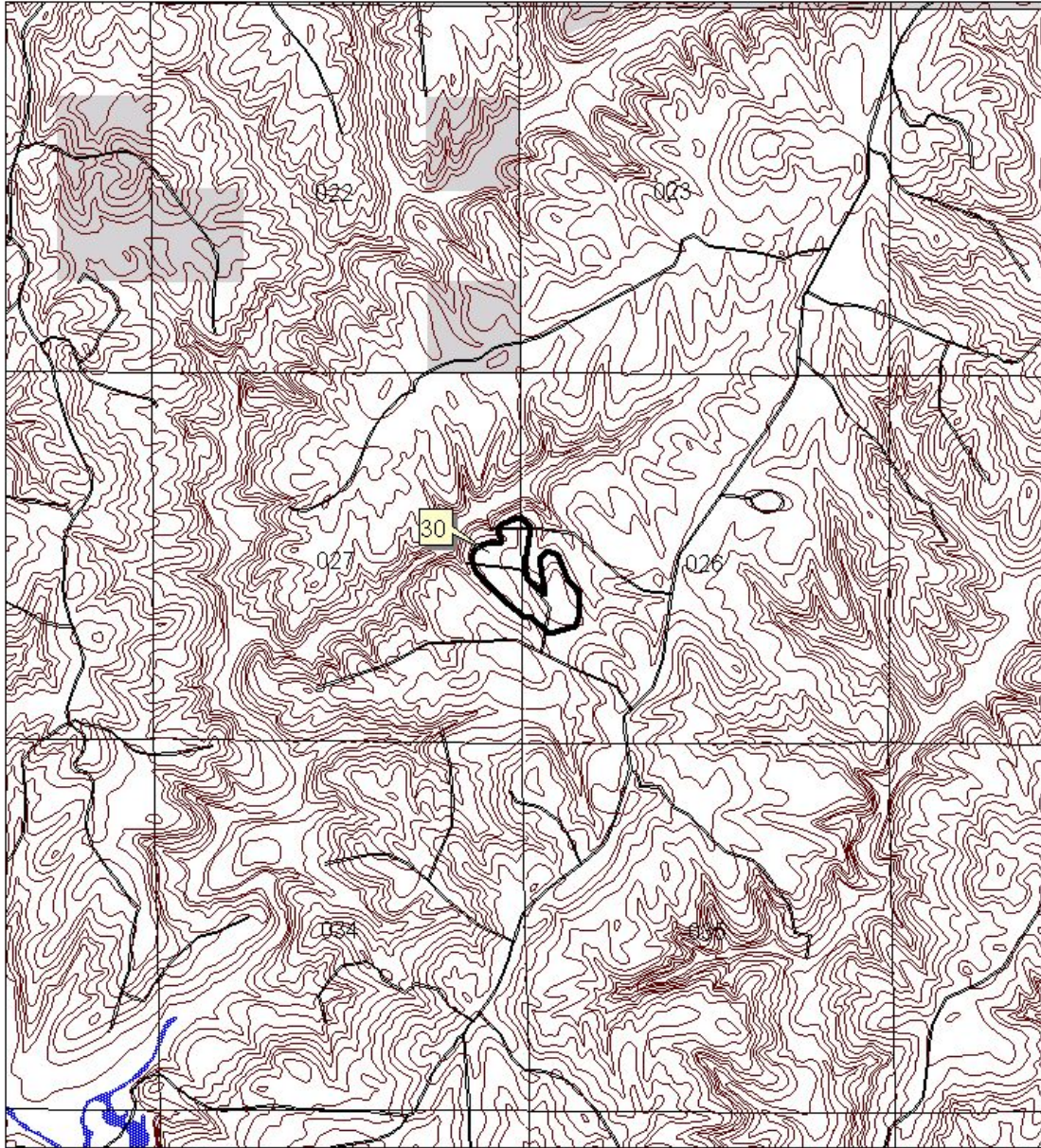
Bankhead National Forest Compartment 30 Stand 5



- Comp. 30, Stand 5
- Roads
- Water
- Private Land

T8S, R7W

scale = 1:24000
jwc 9/2005



BIOLOGICAL EVALUATION
of
Proposed, Endangered, Threatened, and Sensitive Species

Commercial Thinning of Loblolly Pine Stand
in
Forest Service Management Compartment #30, Stand #5

Lawrence County, Alabama
Bankhead National Forest

Responsible Agency:
USDA Forest Service
National Forests in Alabama
William B. Bankhead Ranger District

Contact:

Deciding Officer: District Ranger Glen D. Gaines

BE Preparation and Biological Surveys:

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Summary

This project will conduct commercial thinning in selected loblolly pine plantations. The total area that may be treated under this evaluation is 35 acres. The site is located in Forest Service management compartments 30, stand #5 (35 acres) which is in section 26, 27, township 8 south and range 7 west in Lawrence county. The desired future condition for this site is to be native hardwood woodlands.

The project purpose and need are to thin existing loblolly pine stands to improve stand health and to reduce the risk of southern pine beetle attack. The site will ultimately be restored to native hardwood community types. The purpose of this evaluation is to address the potential for impacts to selected biological resources from the project.

Based upon the findings of this evaluation, this project **is not likely to adversely effect** the Indiana and gray bats and will have **no effect** on the other plants and animals that are federally listed on the Bankhead National Forest and will have **no impact** on the species listed as sensitive for the Bankhead. The project **will not jeopardize the continued existence of any species or destroy or adversely modify designated critical habitat.**

Due to the findings of this assessment regarding Indiana and gray bats and its improvement of their habitat, concurrence with the U.S. Fish and Wildlife Service is required.

INTRODUCTION

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 site is located in the northeast - central portion of Bankhead National Forest (BNF), just west of the Owl Creek Horse Camp. The site is located in Lawrence County, Alabama. A map of this unit is located in the project file at the Bankhead Ranger District office in Double Springs, Alabama.

The purpose of this Biological Evaluation (BE) is to determine whether the proposed action is likely to affect endangered, threatened, proposed, or sensitive species. The project purpose and need is to thin loblolly pine plantations to improve the health of the stand and to reduce the risk of southern pine beetle attack. The project will result in a commercial thinning operation being conducted in this stand.

This site was inadvertently left out of the Forest Health and Restoration Project but meets the same criteria that were used in selecting stands for thinning under that project. In that project, commercial thinning was to be completed on 9,452 acres. An Environmental Impact Statement was completed for the Forest Health and Restoration Project in 2003.

This project will thin the existing loblolly pine plantations. The result will be loblolly pine plantations that are properly thinned with a reduction in risk of attack by the southern pine beetle. 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 these standards, this project will not affect aquatic or riparian species.

The areas surveyed for this evaluation did not contain glades or rock outcrops, which are habitats where protected, threatened, endangered, sensitive, or locally rare plant species are typically found. No wetlands or streambeds will be disturbed by this project

although Key Mill Branch, a stream which is considered as potential habitat for certain species of aquatic mussels is in the proximity of the project area.

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.
- 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.

CONSULTATION HISTORY

Effects to threatened and endangered species from projects involving commercial thinning have been topics of past consultation with the US Fish and Wildlife Service (FWS). The Forest Health and Restoration Project and Environmental Impact Statement which outlines thinning certain loblolly pine stands, reforesting southern pine beetle killed areas and restoring native community types on almost 9,452 acres of the Bankhead was approved by the Fish and Wildlife Service during 2003. In that project, surveys were conducted on thousands of acres of loblolly pines of similar age and in similar topographical locations.

PROPOSED MANAGEMENT ACTION

The proposed project will thin approximately 35 acres of loblolly pine in the compartment as noted. This project will involve removal of selected trees by commercial logging operations. Thinning involves cutting selected trees with mechanical equipment and removing them for transport to a mill. Equipment such as logging skidder mounted mechanical cutters will sever the stems and a skidder will typically transport them to a logging deck. They are then trimmed and loaded for transport. Forest Service guidelines as outlined in the Revised Land and Resource Management Plan must be followed during all operations to prevent resource damage.

SPECIES CONSIDERED AND SPECIES EVALUATED

District Biological Scientist Allison Cochran and District Wildlife Biologist Tom Counts conducted field reviews of the project site on August 24, 2006. The BNF district office keeps current records of locations of known listed species throughout the area, which were reviewed as part of this evaluation. There were no records of species of concern on

this tract. All areas which may be disturbed or impacted, by this project were surveyed for presence of protected species. None were found to exist within the project boundary.

All currently listed threatened, endangered, protected and sensitive species (Regional Forester's Sensitive Species list) were considered during this evaluation. Some of the species are not known to occur on the BNF at the present time but potential habitat was assessed for effects. This evaluation considered species range, life history information, available habitat information, and known locations to determine which species to evaluate. See the following table for a listing of species considered.

Federally Listed Species of the Bankhead National Forest

Scientific Name	Common Name	Status ¹	Habitat	Notes	Within Affected Area? May be affected by the project?
<i>Myotis grisescens</i>	Gray Bat	E	1	Known from Lawrence County.	Potential habitat. Slightly improved habitat.
<i>Myotis sodalis</i>	Indiana bat	E	1	Known from Lawrence County.	Potential habitat. Slightly improved habitat.
<i>Haliaeetus leucocephalus</i>	Bald Eagle	T	11	Known sites occur along Smith Lake IN Winston County.	No. Nest habitat along lake will not be affected.
<i>Picoides borealis</i>	Red-cockaded woodpecker	E	17	Does not occur on Bankhead	No.
<i>Sternotherus depressus</i>	Flattened musk turtle	T	A	Occurs on Bankhead.	No. Aquatic species will not be affected by the project.
<i>Epioblasma brevidens</i>	Cumberlandian combshell	E	A	Does not occur on Bankhead.	No. Aquatic species will not be affected by the project.
<i>Epioblasma metastrata</i>	Upland combshell	E	A	Not recorded in the Black Warrior since the 1900's.	No. Aquatic species will not be affected by the project.
<i>Epioblasma turgidula</i>	Turgid blossom pearly mussel	E	A	Does not occur on Bankhead and may be extinct.	No. Aquatic species will not be affected by the project.
<i>Lampsilis altilis</i>	Fine-lined pocketbook	E	A	Occurs on Bankhead.	No. Aquatic species will not be affected by the project.
<i>Lampsilis perovalis</i>	Orange-nacre mucket	T	A	Occurs on Bankhead.	No. Aquatic species will not be affected by the project.

<i>Apios priceana</i>	Price's Potatoe Bean	T		6/7	Species found near Bankhead.	No. Project did not contain habitat for this species.
<i>Lesquerella lyrata</i>	Lyrate bladder-pod	T		6	Species not documented on Bankhead.	No. Glade species will not be affected by this project.
<i>Marshallia mohrii</i>	Mohr's Barbara's Buttons	T		2	Species not documented on Bankhead.	No. Species not found on project site during on site surveys.
<i>Sagittaria secundifolia</i>	Kral's water-plantain	T		A	Occurs on Bankhead.	No. Aquatic species will not be affected by the project.
<i>Thelypteris pilosa var al.</i>	Alabama streak-sorus fern	T		7	Occurs on Bankhead.	No. Potential habitat is not present and will not be affected.
<i>Xyris tennesseensis</i>	Tennessee yellow-eyed grass	E		11	Species not documented on Bankhead.	No. Potential habitat is not present within the project area.

¹E = endangered; T = threatened

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

Forest Service Sensitive Species

Scientific Name	Common Name	Status ¹	Rank	Habitat	Within Affected Area? If yes, may be affected by the project?
<i>Aesculus parviflora</i>	Small flowered buckeye	S	S2S3G2G3	18	No.
<i>Astragalus tennesseensis</i>	Tennessee Milkvetch	S	S1G3	6	No.
<i>Aureolaria patula</i>	Spreading yellow false foxglove	S	S1G2G3	7	No.
<i>Carex brysonii</i>	Bryson's sedge	S	S1G1	18	No.
<i>Delphinium alabamicum</i>	Alabama larkspur	S	S2G2	6	No.
<i>Diervilla rivularis</i>	Riverbank bush-honeysuckle	S	S2G3	11	No.
<i>Hymenophyllum tayloriae</i>	Gorge filmy fern	S	S1G1G2	7	No.
<i>Jamesianthus alabamensis</i>	Alabama jamesianthus	S	S3G3	11	No.
<i>Juglans cinerea</i>	Butternut	S	S1G3G4	18	No.
<i>Leavenworthia alabamica</i> <i>var. alabamica</i>	Alabama Gladecress	S	T2T3G2G3	6	No.
<i>Leavenworthia crassa</i>	Fleshyfruit Gladecress	C&S	S1G2	6	No.
<i>Lesquerella densipila</i>	Duck River Bladderpod	S	SHG3	6	No.
<i>Monotropsis odorata</i>	Sweet pinesap	S	G3	10	No.
<i>Asplenium x ebenoides</i>	Scott's Spleenwort	S	HYBS1	7	No.
<i>Marshallia trinervia</i>	Broadleaf Barbara's buttons	S	S3G3	11	No.
<i>Minuartia alabamensis</i>	Alabama Sandwort	S	S2G2Q	6	No.
<i>Neviusia alabamensis</i>	Alabama snow-wreath	S	S2G2	6	No.
<i>Platanthera intergrilabia</i>	White fringeless orchid	C&S	S2G2G3	2	No.
<i>Polymnia laevigata</i>	Tennessee Leafcup	S	S2S3G3	18	No.
<i>Robinia viscosa</i>	Clammy Locust	S	G3	17	No.
<i>Rudbeckia triloba</i> <i>var. pinnatiloba</i>	Pinnate-lobed Black-eyed Susan	S	S2S3G4T2	7	No.
<i>Scutellaria alabamensis</i>	Alabama skullcap	S	S2G2	7	No.
<i>Sedum nevii</i>	Nevius' stonecrop	S	S3G3	7	No.

Forest Service Sensitive Species						
Scientific Name	Common Name	Status ¹	Rank	Habitat	Within Affected Area? If yes, may be affected by the project?	
<i>Silene ovata</i>	Blue Ridge catchfly	S	S1G2G3	7	No.	
<i>Talinum calcaricum</i>	Limestone Fameflower	S	S2G3	6	No.	
<i>Talinum mengesii</i>	Menge's fameflower	S	S2S3G3	6	No.	
<i>Thalictrum mirabile</i>	Little mountain meadow rue	S	QS1G2G3	7	No.	
<i>Trillium lancifolium</i>	Lanceleaf Trillium	S	S2S3G2	11	No.	
<i>Trillium simile</i>	Jeweled Trillium	S	G3	18	No.	
<i>Speyeria diana</i>	Diana Fritillary	S	S3G3	11?	No.	
<i>Corynorhinus rafinesquii</i>	Rafinesque's Big-eared bat	S	-	10	No.	
<i>Cheilolejeunea evansii</i>	A liverwort	S	S1G1	11	No.	
<i>Aneura maxima</i>	A liverwort	S	G1G2	11	No.	
<i>Pellia X appalachiana</i>	A liverwort	S	G1G2	11	No.	
<i>Nardia lescurii</i>	A liverwort	S	-	11	No.	
<i>Plagiochila echinata</i>	A liverwort	S	G2	11	No.	
<i>Radula sullivantii</i>	A liverwort	S	G2	11	No.	
<i>Riccardia jugata</i>	A liverwort	S	G1G2	11	No.	
<i>Hydroptila paralatosa</i>	A caddisfly	S	S2G2	A	No.	
<i>Rhyacophila carolae</i>	A caddisfly	S	S1G1	A	No.	
<i>Elliptio arca</i>	Alabama spike	S	S2G3	A	No.	
<i>Obovaria jacksoniana</i>	Southern Hickorynut	S	S2G1G2	A	No.	
<i>Obovaria unicolor</i>	Alabama Hickorynut	S	S2G3	A	No.	
<i>Strophitus subvexus</i>	Southern creekmussel	S	S2G3	A	No.	
<i>Villosa nebulosa</i>	Alabama rainbow	S	S3G3	A	No.	
<i>Etheostoma bellator</i>	Warrior darter	S	S2G2	A	No.	
<i>Etheostoma douglasi</i>	Tuskaloosa darter	S	S2G2	A	No.	
<i>Etheostoma phytophyllum</i>	Rush darter	S	S2G2	A	No.	
<i>Etheostoma tuscumbia</i>	Tuscumbia darter	S	S1G1	A	No.	
<i>Percina sp.cf.macrocephala</i>	Longhead darter (Warrior Brinled Darter)	S	G3	A	No.	

<i>Necturus alabamensis</i>	Black Warrior waterdog	S / C (2005)	S2G2T2	A	No.
<i>Helianthus eggertii</i>	Eggert's Sunflower	S	G2 T2	8	No.
<i>Potomilus inflatus</i>	Alabama Heelsplitter	S		A	No.

¹S = sensitive; C = candidate for
Federal listing

Habitat Code

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- 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

All species listed for the Bankhead National Forest as threatened or endangered by the FWS and as sensitive by the Regional Forester were considered, but some were excluded from further evaluation. Potential habitat was assessed for effects.

A discussion of the excluded species listed by the Fish and Wildlife Service and the reasons for exclusion follows.

Federally Listed Species (Threatened & Endangered Species)

Bald eagle. The bald eagle has been observed around portions of Bankhead National Forest that border the Lewis Smith Lake. Two inactive bald eagle nests were confirmed on National Forest system lands along Lewis Smith Lake during 2004. The nests will be monitored for activity.

The bald eagle is threatened throughout its range by habitat loss, disturbance by humans, contaminants, decreasing food supply and illegal shooting. The project sites do not contain potential bald eagle nesting habitat. They are located more than fifteen miles from Smith Lake.

Red-cockaded woodpecker. There has been no record of a red-cockaded woodpecker at the Bankhead National Forest since the early 1990's. Informal conversations with Ralph Costa of the Fish and Wildlife Service resulted in agreement that the red-cockaded woodpeckers are no longer present here. Habitat for the red-cockaded woodpecker was not maintained on the Bankhead. Potential habitat is not present within the project sites.

Leafy Prairie Clover. This species has not been found on the Bankhead National Forest. Habitat of the leafy prairie clover in Alabama is described as thin-soiled limestone glades and limestone barrens. In Tennessee, this plant occurs on wet calcareous barrens and moist prairies or cedar glades, usually near a stream or where some seepage from limestone provides seasonal moisture. Leafy prairie clover requires full sun and low competition. Periodic fire is required to maintain these conditions.

This species has declined throughout its range due to habitat destruction and alteration due to development, overgrazing, and fire suppression. It is highly threatened by continued habitat loss due to land use change. Additionally, sites in Tennessee are threatened by exotic, invasive shrubs like privet and bush honeysuckle.

The proposed project does not include glades or barrens habitat. Because habitat is not available for this plant within the project sites and because it is not known to occur on BNF, this plant was excluded from further evaluation.

Lyrate bladderpod. This species has not been found on the Bankhead National Forest or in Winston County. The six known populations of this plant occur in Franklin, Lawrence and Colbert counties, Alabama.

This plant's habitat is described as red soils, limestone outcroppings, disturbed cedar glades and glade-like areas (open pastures, fields, and roadsides in calcareous areas). This species is restricted to shallow soils. This plant requires periodic disturbance to maintain the open cedar glade habitat where it occurs. It is threatened by woody plant succession and habitat loss or modification.

The proposed project does not include glades or outcrop habitats. Because habitat is not available for this plant within the project sites and because it is not known to occur on BNF, this plant was excluded from further evaluation.

Kral's water plantain. This is an aquatic perennial plant that occurs along Sipsey and Caney Creeks. It is only known from three tributaries in northern Alabama and Georgia. Kral's water plantain (also known as Little River Arrowhead) occurs in undimmed riverine reaches on exposed shoals or rooted among loose boulders in sands, gravels, and silts in pools up to 1 meter deep. Stream bottoms are typically narrow and bounded by steep slopes. Locally distributed, but where suitable habitat exists, the plants grow in nearly pure stands.

Siltation, impoundments, and eutrophication due to sewage are threats to this species.

The proposed project will not be conducted within nor affect aquatic habitats. There are no streams present within the project sites. 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 these standards, this project will not affect aquatic or riparian species.

Alabama Streak Sorus Fern. The known range of this plant includes a 5 km stretch of the Sipsey River in Winston County. Where it is found, in rock shelters along the Sipsey, it is locally abundant. Threats to this fern include impoundments, bridge construction, logging of upslope forests, vandalism, and incidental damage from recreational use of the habitat.

No plants occur within the proposed project sites, nor is their habitat present. Streams do not occur within the project sites. 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 these standards, this project will not affect aquatic or riparian species.

Tennessee yellow-eyed grass. This species has not been found on the Bankhead National Forest. Twenty populations are known in Alabama, Georgia and Tennessee. This species is vulnerable to land-use conversion and habitat fragmentation resulting mainly from highway construction and alteration of wetlands. It is also threatened by right-of-way maintenance.

Tennessee yellow-eyed grass may be found in moist- to wet places including, on seepage slopes, springy meadows, bogs, and banks of small streams, in open areas or thin woods where calcareous rock is at or near the surface or on thin calcareous soils.

The proposed project does not include Tennessee yellow-eyed grass habitat. The plant is not known to occur on BNF. Therefore, it was excluded from further evaluation.

Mohr's Barbara's buttons

This species occurs in moist prairie-like openings in woodlands and along shale-bedded streams in a grass-sedge community. Some populations are also located within road rights-of-way that are seasonally wet. This plant is known from 32 locations in north central Alabama to northwest Georgia

in the Cumberland Plateau and the Ridge and Valley physiographic regions. One population was recently discovered on private land within the southern administrative boundary of the Bankhead National Forest.

Threats include road widening, burying utility lines, and right-of-way maintenance activities including mowing during flowering, herbicide application, and planting of aggressive competitors. Habitat conversion and encroachment of woody species in the absence of fire are also threats to populations. This species appears to maintain itself only in areas that are naturally or artificially cleared and where hardwood and understory shrubs are at low densities. Open conditions may have been maintained by fire historically.

This species nor its habitat were encountered within the project area. This species was also not encountered in the surveys of thousands of similar acres of loblolly pine plantations for the Forest Health and Restoration Project during 2003. Thus, it was excluded from further evaluation.

Mussels - turgid blossom, pink mucket pearly, rough pigtoe and Cumberlandian combshell mussels.

Three of these species of mussels (turgid blossom, pink mucket pearlymussel, and rough pigtoe) are listed as having historic range within Lawrence County, Alabama. Their habitat was associated with the Tennessee River and its large tributaries. The turgid blossom mussel is considered to be extinct by the Fish and Wildlife Service and has never been found within the streams of Bankhead National Forest. The rough pigtoe is currently known only to occur in a few sites in the Tennessee, Clinch, Cumberland, Barren and Green rivers. This species is not known to occur within Bankhead. The pink mucket is distributed in Colbert, Lauderdale, Limestone, Madison, Marshall, and Morgan counties in Alabama. The pink mucket is a large river species known from the Mississippi, Tennessee, Ohio and Cumberland river systems and their tributaries. This species has never been recorded within the streams of Bankhead National Forest and is not expected to occur here. The rough pigtoe is found within the Tennessee River proper and thus will not be found within Bankhead National Forest.

The fourth, Cumberlandian combshell, may have had historic range within north Alabama, as the habitat was associated with the Tennessee River. However, records do not indicate that it is currently found in or near the Bankhead National Forest.

None of these four species are listed by the US Fish and Wildlife Service within Winston County. There are no streams within the project sites. 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. Although historical and critical habitat will be recognized, the procedures currently utilized for protection of water quality from silvicultural practices will provide protection of this habitat. 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 these standards, this project will not affect aquatic or riparian species.

For the reasons listed above, these mussel species were excluded from further evaluation.

Price's Potato Bean

This plant species is a herbaceous vine. It has been reported from private property adjacent to the northern portion of Bankhead National Forest although it has not been found on Forest Service lands. It is possible that undiscovered populations of *A. priceana* exist in open woods, forest gaps, low areas near creeks and along streambanks. The species seems to prefer mesic areas and is found along open, low areas near a stream or along the banks of streams. It is sometimes found along the base of limestone bluffs. This plant grows well in well drained loams or old alluvium over limestone on rocky, sloping terrain. The species can survive a broad range of pH from less than five to greater than eight.

Based upon site specific surveys of the project area and from review of occurrence records, the project does not include any of the areas that are potential habitat for this species, thus it is excluded from further evaluation.

EVALUATED SPECIES SURVEY INFORMATION

Although all species that potentially may occur on the District were considered for this report, those with potential habitat within the project area were evaluated in-depth. The following species were evaluated in this BA/BE; Indiana and gray bat, flattened musk turtle, Upland combshell, orange nacre-mucket mussel, Alabama Moccasinshell, Coosa Moccasinshell, Dark pigtoe, Ovate Clubshell, Triangular kidneyshell.

Site specific surveys of the project sites were conducted on August 24, 2006 by Biological Science Technician Allison Cochran and District Wildlife Biologist Tom Counts. No species listed as threatened or endangered by the FWS or as sensitive by the Regional Forester were encountered during field surveys. Additionally, extensive surveys were conducted in surrounding areas and in similar areas throughout the forest for the Bankhead's Forest Health and Restoration Project and Environmental Impact Statement. None of the species evaluated here were encountered during those surveys. Survey methods included walking over the project sites searching for listed plants and animals, as well as searching for potential habitat.

ENVIRONMENTAL BASELINE FOR THE SPECIES EVALUATED and EFFECTS OF PROPOSED MANAGEMENT ACTION ON EACH SPECIES EVALUATED

Federally Listed Species (Threatened & Endangered Species)

Gray bat and Indiana bat. Small populations of these two species of bats were found within Bankhead National Forest in Lawrence County during 1999. Their presence has been verified in subsequent years in two caves.

Gray bats forage primarily over water while Indiana bats feed in and around the tree canopy of floodplain, riparian and upland forests. Within flood-plain forests they show a preference for areas where canopy closure ranges from 30% to 70%. Streams, associated floodplain forests, and impounded bodies of water are preferred foraging habitats for pregnant and lactating Indiana bats, which may fly up to 1.5 miles from upland roosts to feed. In general, Indiana bats forage within the canopy of upland

forests, over clearings with early successional vegetation, along the borders of croplands, along wooded fence rows and over farm ponds in pastures. Gray bats use caves for both summer roosting, maternity colonies and winter hibernation. Indiana bats use larger trees with hollows or loose bark for their summer roosts and maternity colonies, but spend their winters hibernating in caves like gray bats.

Information and research about summer roosting sites of Indiana bats is extremely limited south of Tennessee. Recent work in eastern Tennessee and western North Carolina has been done on Indiana bat maternity colonies. The colonies were found to use primary and secondary roosting sites. In all cases the bats were found under the exfoliating bark of either pine or hardwood trees, with most of the roosts being in conifer snags. Limited research has been conducted on the Indiana bats in Bankhead National Forest. The main threats to this species are availability of natural roost structures, loss of winter hibernaculum and human disturbance.

Direct, Indirect and Cumulative Effects: The tracts proposed for thinning under this document are over seven miles from known hibernacula.

The actual areas to be treated by thinning operations are very poor habitat for Indiana or gray bats in their current condition. The high stocking rate of pine trees (greater than 100 basal area) do not allow for easy movement among the canopy, that a bat needs to forage for insects. The thinning operations will actually improve the habitat for forest bats by removing excess trees (thinning to approx. 75 basal area) which will physically open up the stand. This makes the area easier for bats to fly through thus it will potentially improve the habitat for these animals. It is not known if Indiana and gray bats use this site in its current condition however monitoring of numerous similar sites has failed to find the species.

Direct Effects - The trees to be harvested are small diameter loblolly pines and are not normally utilized by bats. Hardwood trees on the site will be favored by leaving them during this operation, as the desired future condition of the site is to be a hardwood stand. Trees known to be used as Indiana bat roosts are not planned for harvest in this sale. Snags will not be intentionally felled unless they are of immediate threat to the safety of the public, employees or contractors.

To avoid possible harassment of swarming Indiana bats, tree harvesting near caves is prohibited between September 1 and December 1 within the primary zone (0.5 mile) and secondary zone (1.5 miles) of hibernacula by the revised Forest Land Resource Management Plan. The project area is outside of either of these protection zones.

Indirect effects to these bats would come from the improved habitat that will be created by the thinning operation.

Cumulative effects from this operation and other similar operations across the District would be such that bat habitat is generally improved.

Determination of Effect: The project will result in improved habitat for bats, that there are no anticipated direct impacts to these species. The indirect effects will likely be positive as the project will improve the site for bats. Cumulatively, the resulting operations to thin pine stands will be beneficial., It is anticipated that ongoing efforts of the Forest Health and Restoration Project will result in improved habitat for all bats over the Bankhead National Forest.

Summary – direct effects: none, due to project mitigations. **Indirect –** slightly beneficial effects as habitat on the site will be improved by opening the forest canopy. However, the Indiana and gray bat have not been found in these open pine habitats that are distant from known hibernacula. **Cumulative –**

somewhat beneficial effects of overall thinning operations to all forest bats – including the Indiana and gray bat. Overall determination: The project will result in an improvement of habitat for bats – including the Indiana and gray so the determination “**is not likely to adversely affect**”; for the slightly beneficial effects of the project.

Flattened Musk Turtle (*Sternotherus depressus*).

Flattened musk turtles are listed as threatened under the Endangered Species Act (USFWS 1987). A recovery plan has been completed for this species (USFWS 1990a). They are endemic to the upper Black Warrior River system in Alabama. Historically, flattened musk turtles inhabited 10 to 20 percent of the streams in the upper third of this river basin. Currently, they have been extirpated from over 30% of their historical range. Extant populations and potential habitats on or near Bankhead National Forest are displayed in the table below. Only about 15% of the habitat appears to support healthy reproducing populations. The species is considered to be in decline range-wide (USFWS 2000b). According to the recovery plan (USFWS 1990a), the species can be delisted when there is a viable population maintained over a 10-year period in at least 12 streams, including 8 or more streams with the best quality habitat. Potential impacts to this species from the project include changes to water quality.

The flattened musk turtle is an aquatic species found within the upper Black Warrior drainage. This species generally requires clear gravel bottomed streams with rocky outcroppings and pools 3 to 5 feet in depth. Clear streams are necessary for the production of filter feeders (mussels), which are the primary source of food for this species. The rocky crevices and outcroppings provide cover for the turtle.

Direct, Indirect and Cumulative Effects: Aquatic habitat will be protected by forest level actions to protect water quality. Project level implementation of measures to protect water quality will also be utilized. This is addressed by employing mitigating measures to avoid, limit and minimize the transfer of sediment that potentially enters into aquatic sources. The exercise of project mitigations and best management practices, which are part of this proposal, will provide protection of aquatic resources in the Bankhead National Forest. Given the protection afforded by the erosion control measures as described and by the overall water quality protection mechanisms of the Forest Land and Resource Management Plan, direct and indirect physical damage would be prevented to this species and its habitat. There should be no direct or indirect impacts to the habitat of this species.

A cumulative effects analysis should consider incremental impact of actions when added to past, present and reasonably foreseeable future actions. The analysis includes all actions regardless of who undertakes the actions. Cumulative effects can result from individually minor but collectively significant actions taking place over time. While this project is considered as relatively minor in impact, a collection of other actions can impact habitats. Essentially all Forest Service actions are evaluated for their impact upon federally listed species such as this one. Actions off the forest are generally not evaluated to such an extent. These actions are also under no regulatory authority of the Forest Service. There are numerous threats to aquatic habitats including sediment, nutrients, flow, temperature, habitat connectivity and many others. Cumulative effects for the total of all of the thinning operations are minimized as the mitigation measures for soil erosion will be carried out as needed on all project sites. Thus, there would not be an excessive area within any one watershed that was treated during a short period of time. There are no anticipated cumulative effects to the flattened musk turtle from this project.

Determination of Effect: The practices and management actions necessary to carry out this project will have “**no effect**” the flattened musk turtle. The flattened musk turtle is an aquatic species that is found within the drainage

of the upper Black Warrior. The proposed project could result in direct and indirect impacts to stream habitats where this species occurs, however project mitigations will prevent this.

Mussels - Orange-nacre mucket, Alabama moccasinshell, Coosa moccasinshell, triangular kidneyshell, dark pigtoe, fine-lined pocketbook, upland combshell, ovate clubshell.

These are aquatic species with habitat on Bankhead National Forest. The historic and current habitat for many of these include the Sipsey Fork, Thompson, Flannagin, Borden, Caney, North Fork Caney, Brushy, Capsey, Rush, Brown and Beech Creeks within Bankhead National Forest.

In compliance with a court order the U.S. Fish and Wildlife Service has recently assessed the best data available to evaluate critical habitat for 11 species of mussels. The final rule to designate critical habitat was published in the Federal Register on July 1, 2004 (50 CFR Part 17) and was effective as of August 2, 2004. Those five species with designated critical habitat on Bankhead National Forest include the orange-nacre mucket (Lampsilis perovalis), Alabama moccasinshell (Medionidus acutissimus), ovate clubshell (Pleurobema perovatum), dark pigtoe (Pleurobema furvum), triangular kidneyshell (Ptychobranthus greenii). Critical habitat is a term used in the Endangered Species Act to refer to a specific geographic area that is essential for the conservation of a threatened or endangered species and may require special management or protection. Federal agencies such as the Forest Service are required to consult with the Fish and Wildlife Service to ensure that their actions do not jeopardize the continued existence of these species or destroy or adversely modify critical habitat. This designation also serves to enhance awareness of the importance of the habitat and the need for special management considerations.

The Coosa moccasinshell and the ovate clubshell have not been recorded on the BNF in recent years, although it is within their historic range. There are no population estimates for the Coosa moccasinshell. Critical habitat has been designated on 9 watersheds of Alabama, Georgia, and Tennessee. This critical habitat does not include any portions of the streams within Bankhead National Forest (USFWS 2003). This species is included within this analysis primarily due to its status as having *historical habitat* within the Black Warrior basin and that it is a high profile species with critical habitat designation in other areas. The ovate clubshell is considered to be rare throughout its range. Critical habitat has been designated for 20 watersheds in Alabama, Mississippi, Georgia, and Tennessee (USFWS 2003). Portions of critical habitat are within Sipsey Fork largely on the Bankhead National Forest. The species is not currently known to exist within Bankhead National Forest although it historically had habitat in this area.

The triangular kidneyshell's current range includes the Sipsey Fork in the Black Warrior River drainage. Population estimates for this species are not known. Its range is extremely limited. This limited range, combined with low species numbers make it very vulnerable to threats. Threats include impoundment of habitat and over utilization for commercial, recreational, scientific, and educational purposes. Critical habitat has been designated for 13 watersheds in Alabama, Georgia, and Tennessee (USFWS 2003). Portions of critical habitat are within the Sipsey Fork largely on the Bankhead National Forest.

The upland combshell was historically known from the Black Warrior River drainage in Alabama. This species has not been observed within streams of the Black Warrior since the early 1900's. Threats to this species include habitat modification, sedimentation, and other forms of water quality degradation.

The current distribution of the dark pigtoe is limited to the tributaries of the Sipsey Fork in Winston County, where it is most common, and the North River in Tuscaloosa and Fayette counties. This species is generally rare wherever it occurs. Population estimates are not known. This species is sensitive to impoundment, habitat modification, sedimentation, and water quality degradation. Critical habitat has been designated including areas within the Sipsey Fork, largely on the Bankhead National Forest (USFWS 2003).

The current distribution of the fine-lined pocketbook is believed to be limited to the headwaters of the Sipsey Fork of the Black Warrior River drainage; Tatum Creek in the Alabama River Drainage; Little Cahaba River in the Cahaba River Drainage; Conasuaga River in the Coosa drainage and one site in the main channel; and Chewacla and Opintlocco Creeks in the Tallapoosa River drainage. Threats to this species include habitat modification, sedimentation and water quality degradation. Historically this species was spread throughout the Mobile River Basin, but currently there are only eight records for this species within the historic range. Critical habitat has been proposed for 12 watersheds including portions of the extant populations and historical habitats on or near Bankhead National Forest. The critical habitat designation was not given to this species in habitats found in Bankhead National Forest.

The orange-nacre mucket was historically known from Brushy Creek, Mulberry and Sipsey Forks in the Black Warrior River drainage in the area around Bankhead National Forest. It has disappeared from many streams within its historic range. Population estimates are unavailable for this species, although it is described as being common in a few streams in Bankhead National Forest. And, these populations within Bankhead may be stable, according to Nature Serve records. Threats to this species include habitat modification, sedimentation and water quality degradation. This species is reported to be relatively tolerant of nondestructive intrusion, though heavy recreational use of mussel habitat could be disruptive.). Critical habitat has been proposed for 15 watersheds in Alabama and Mississippi (USFWS 2003). Portions of the designated critical habitat are located in the Sipsey Fork largely on the Bankhead National Forest.

The current range of the Alabama moccasinshell includes the headwaters of the Sipsey Fork in the Black Warrior River drainage (Brushy Creek) where this species is considered to be locally common and the populations stable. Threats to this species include habitat modification, sedimentation and water quality degradation. Critical habitat has been designated for 16 watersheds including portions within the Sipsey Fork and Brushy Creek watersheds largely on the Bankhead National Forest (USFWS 2003).

Water quality, cool temperatures and continuous flow are major considerations in the viability of these animals. Measures to protect these characteristics are necessary for all actions within the Black Warrior Drainage system. Threats to these species include habitat modification, sedimentation and water quality degradation.

The proposed project is outside of the known habitat for these species but is within the same watershed of existing habitat. Appropriate stream habitat is not included within the proposed project sites. Thus, direct physical damage will not occur. Erosion control (mitigation measures) will be utilized where indicated by FS personnel to control erosion. 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 these standards, this project will not affect aquatic or riparian species and does not jeopardize the continued existence of the species or destroy or adversely modify critical habitat.

A cumulative effects analysis should consider incremental impact of actions when added to past, present and reasonably foreseeable future actions. The analysis includes all actions regardless of who undertakes the actions. Cumulative effects can result from individually minor but collectively significant actions taking place over time. While this project is considered as relatively minor in impact, a collection of other thinning projects could potentially impact habitats. Essentially all Forest Service actions are evaluated for their impact upon federally listed species such as this one. Actions off the forest are generally not evaluated to such an extent. These actions are also under no regulatory authority of the Forest Service. There are numerous threats to aquatic habitats including sediment, nutrients, flow, temperature, habitat connectivity and many others. Cumulative effects for the total of all of the thinning operations are minimized as the mitigation measures for soil erosion will be carried out as needed on all project sites. Thus, there would not be an excessive area within any one watershed that was treated during a short period of time. There are no anticipated cumulative effects to the flattened musk turtle from this project.

The determination is “**no effect**” for the above listed mussels.

DETERMINATION OF EFFECT - *Federally Listed Species (Threatened and Endangered)*

The proposed activity will have “no effect”, bald eagle, red-cockaded woodpecker, leafy prairie clover, lyrate bladder-pod, Price’s potato bean, Mohr’s Barbara’s buttons, Kral’s water plantain, Alabama streak-sorus fern, Tennessee yellow-eyed grass, rough pigtoe, cumberlandian combshell, turgid blossom pearly mussel, pink mucket pearlymussel. The rationale for this finding is that the proposed project does not intersect with potential habitat for these species, thus there is no opportunity for the proposed project to affect the species in a direct, indirect or cumulative manner.

The determination of “is not likely to adversely affect” for Indiana and gray bats is made due to the project mitigations to protect these species and the improvement of forest habitat by the thinning operations which have a beneficial effect.

The proposed activity will have “no effect” on flattened musk turtle, upland combshell, fine-lined pocketbook, triangular kidneyshell, orange-nacre mucket, Alabama moccasinshell, Coosa moccasinshell, dark pigtoe, ovate clubshell. The rationale for this finding is that the proposed project will not intersect streams or riparian habitats and will not result in a change to water quality or sediment delivery to streams based on Forest Plan (Revised Land and Resource Management Plan of 2004) standards and erosion control measures.

Areas designated as critical habitat designation are not within the project area. These areas and adjacent watersheds would be protected by project and forest level water quality protection mechanisms. The project will not jeopardize the continued existence of the species or destroy or adversely modify critical habitat for the two threatened species of mussels including the orange-nacre mucket and the Alabama Moccasinshell. The project will not jeopardize the continued existence of the species or destroy or adversely modify critical habitat for the three species of endangered mussels including the ovate clubshell, dark pigtoe, or the triangular kidneyshell.

Federally Listed Species of the Bankhead National Forest

Scientific Name	Common Name	Status	Finding
<i>Myotis grisescens</i>	Gray Bat	E	Not likely to adversely effect
<i>Myotis sodalis</i>	Indiana bat	E	Not likely to adversely effect
<i>Haliaeetus leucocephalus</i>	Bald Eagle	T	No effect
<i>Picoides borealis</i>	Red-cockaded woodpecker	E	No effect
<i>Sternotherus depressus</i>	Flattened musk turtle	T	No effect
<i>Epioblasma brevidens</i>	Cumberlandian combshell	E	No effect
<i>Epioblasma metastriata</i>	Upland combshell	E	No effect
<i>Epioblasma turgidula</i>	Turgid blossom pearly mussel	E	No effect
<i>Lampsilis atilis</i>	Fine-lined pocketbook	E	No effect
<i>Lampsilis perovalis</i>	Orange-nacre mucket	T	No effect
<i>Medionidus acutissimus</i>	Alabama moccasinshell	T	No effect
<i>Medionidus parvulus</i>	Coosa moccasinshell	E	No effect
<i>Pleurobema furvum</i>	Dark pigtoe	E	No effect
<i>Pleurobema perovatum</i>	Ovate clubshell	E	No effect
<i>Pleurobema plenum</i>	Rough pigtoe	E	No effect
<i>Ptychobranthus greeni</i>	Triangular kidneyshell	E	No effect
<i>Lampsilis orbiculata (L. abrupta)</i>	Pink mucket pearly mussel	E	No effect
<i>Dalea foliosa</i>	Leafy prairie clover	E	No effect
<i>Lesquerella lyrata</i>	Lyrate bladder-pod	T	No effect
<i>Marshallia mohrii</i>	Mohr's Barbara's Buttons	T	No effect
<i>Sagittaria secundifolia</i>	Kral's water-plantain	T	No effect
<i>Thelypteris pilosa var al.</i>	Alabama streak-sorus fern	T	No effect
<i>Xyris tennesseensis</i>	Tennessee yellow-eyed grass	E	No effect
<i>Apios priceana</i>	Price's Potato Bean	T	No effect

¹E = endangered;

T = threatened

EXPLANATION OF DETERMINATIONS

Determinations and the Needed Follow-up Actions: The determination of effects for Federally Listed Species are: 1) No Effect; 2) Is not likely to adversely affect; 3) Is likely to adversely affect. All the possible effects can and should be included within one of the above determinations. The needed follow-up actions vary depending on the type of species and the determination.

A “**no effect**” determination should be used when the proposed actions have no effects on the PETS species or critical habitat. No follow-up action is required for this determination.

A determination of “**is not likely to adversely affect**” should be used for discountable, insignificant or beneficial effects. If the determination of “is not likely to adversely affect”, written concurrence is required from the FWS for both proposed and listed species. *Discountable* effects are those extremely unlikely to occur. Based upon best judgment, a person would not be able to meaningfully measure, detect or evaluate insignificant effects. *Insignificant* effects relate in size of the impact and should never reach the scale where take occurs. *Beneficial* effects are positive effects without any adverse effect to the species.

A determination of “**is likely to adversely affect**” should be used if any adverse effect to a listed species may occur as a direct or indirect result of the proposed action. If the determination is “likely to adversely affect” and the species is proposed for listing, conference with the FWS is required. If the determination of “is likely to adversely affect” and the species is listed as threatened or endangered, formal consultation with the FWS is required by ESA section 7.

Conference is a legally required “informal consultation” with the FWS. All requests for formal consultation must be sent through the Regional Forester. If applicable, Region or Forest-wide concurrence letters from the FWS can be referenced for site-specific projects.

Consultation Implications: The finding of “is not likely to adversely affect” for the Indiana and gray bat requires concurrence from the FWS.

Forest Service Sensitive Species

SMALL-FLOWERED BUCKEYE and BUTTERNUT

Small-flowered Buckeye is found in rich mesic woods and along creek margins. Butternut is found primarily on, but not limited to, limestone-derived soils, heavy clay-like soils, and well-drained soils associated with bottomlands and floodplain woods, or calcareous mesic woods. Butternut is found in rich hardwoods and streamside margins, especially in calcareous alluvial depositions along the streams. This tree rarely occurs in pure stands. It is shade-intolerant. The major threat to butternut throughout its entire range is the butternut canker disease. Lack of disturbance and shading are also threats to successful reproduction of butternut.

These species and their habitat were not encountered during field surveys and are not known to occur within the project sites. In addition, the project will not harvest hardwood trees, such as the butternut.

MENGE'S and LIMESTONE FAMEFLOWER and TENNESSEE MILKVETCH

Tennessee Milkvetch is found on limestone glades in Morgan County. Potential habitat exists within the Bankhead National Forest. Menge's fameflower is associated with cedar glades, limestone or sandstone outcrops, sandstone cliffs or rocks. Menge's fameflower is found in soil pools within expanses of flat sandstone outcrops that are large enough to allow full sunlight or near full sunlight on the outcrop. Although no plants were found during surveys of the proposed areas, these plants are present throughout the Bankhead National Forest in glade type habitats. Limestone fameflower is also associated with glades and rock outcrops. It has not been encountered in the Bankhead National Forest. Limestone fameflower is known from the Nashville Basin and calcareous lowlands of middle Tennessee, from northern Alabama, and from Kentucky. This locally abundant plant is threatened by urban expansion and conversion of some open glades to low-quality pasture across its range.

These species and their habitat were not encountered during field surveys and are not known to occur within the project site. No glades were found on these sites during pre-project surveys and none were noted in occurrence records.

BRYSON'S SEDGE

This species is associated with, but not limited to, low wet woods or areas commonly considered being riparian areas within streamside management zones. It needs mesic conditions and at least partial shade to survive. They are not limited to a particular soil type, but do include moist, sandy loams. Bryson's sedge is found in rich deciduous woods or on bluffs above streams. It is a newly identified plant (1993) and little is known about its life science. Bryson's sedge is apparently narrowly endemic to gorges of a single drainage in the Cumberland Plateau physiographic province in Alabama.

Threats include land-use conversion and habitat fragmentation.

The project sites do not contain habitat for this species. 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 these standards, this project will not affect aquatic or riparian species.

FLESHY-FRUIT and ALABAMA GLADECRESS

Fleshy-fruit gladecress has been encountered on two glades within the Bankhead National Forest. It is endemic to Lawrence and Morgan counties in Alabama and verified from six sites in those two counties. It occurs on limestone glades, fallow fields and along roadsides in sunny, open habitats. This gladecress is highly threatened by human disturbance, including ATV use and trash disposal on glades.

Alabama gladecress is associated with limestone glades and is known from Franklin and Lawrence counties. Limestone glades, from which these species are known, are not present within the project site.

DUCK RIVER BLADDERPOD

This species is only known from four counties in Alabama and from approximately fifty occurrences in seven counties in Tennessee. This species is known to occur in Franklin and Marshall counties in calcareous fields and pastures. It has not been encountered within the BNF and is not expected to occur within the project site. Agriculture, stream modification, dam construction and competition with grasses all pose threats to this species.

Habitat for this species does not exist within the project site.

LITTLE MOUNTAIN MEADOW RUE, NEVIUS' STONECROP, LIVERWORTS AND SCOTT'S SPLEENWORT

These species are somewhat to very "rock loving" in that they are usually found on more or less vertical rock faces.

Little mountain meadow-rue is restricted to wet sandstone habitats and known only from eastern Kentucky and Tennessee, south to northern Alabama. Like the other epipetric species considered here, habitat is difficult to access; thus limiting threats.

Nevius' stonecrop is most likely on rock faces or bluffs above creeks and rivers on limestone or shale, and on limestone outcrops in woodlands growing amongst various mosses under light to heavy shade. It is restricted to a total of 8 counties in north-central Alabama, west-central Georgia and southeastern Tennessee. Nevius' stonecrop is threatened primarily by factors that dry out its habitat or intensively shade it. The rocky, bluff habitats of this species make it difficult to access; therefore, it is not severely threatened range-wide.

Liverworts are moss-like, non-vascular plants that grow on damp ground, rock outcrops, spray cliffs, and downed wood. These species are found in late successional riparian forests. *Plagiochila echinata* is reported to occur on rocks and stream banks in humid gorges and in the spray zone of waterfalls when encountered in North Carolina. *Cheilolejeunea evansii* is known from eleven extant occurrences in the southern Appalachians in western North Carolina, western South Carolina and north central Alabama. This liverwort is found at lower elevations on the bark of trees in moist gorges and gorge-like habitats. It may occur on standing trees at just above ground level to 3 meters up the trunk on a variety of mesic to dry-mesic hardwoods. Threats to this liverwort include clear cutting or activities that would result in the removal of trees in the vicinity of the bryophyte.

Scott's Spleenwort is epipetric. It is found in cool rock crevices (limestone, sandstone, or conglomerate cliffs) with a northern exposure. It is also associated with moist, shady habitats. It is not known from BNF. It has been encountered in Jefferson County, Alabama.

The proposed project will not occur within the appropriate type of habitat for any of these species. There is no opportunity for impact to the moist, rock habitats where these species are found. None of these species were found during field reviews and there were none found on this area within the occurrence records.

BROADLEAF BARBARA'S BUTTONS

Broadleaf Barbara's buttons is endemic to the southeast and is known from several states, but is not common. This species is restricted to specialized seepy calcareous habitats. This species has been described as being found in pinelands and damp woods. It is not known from the Bankhead. Habitat for this plant is generally unsuitable for other uses, but land-use conversion and fragmentation are considered threats.

Potential habitat for broadleaf Barbara's buttons does not occur within the project site.

ALABAMA SANDWORT

Alabama sandwort is not currently known from any locations on the Bankhead, although it has been found within one mile of the administrative boundary. This species is an Alabama endemic and is associated with glades, barrens, and rock outcrops.

Potential habitat for Alabama sandwort does not occur within the project site.

ALABAMA SNOW-WREATH

This plant is rare throughout its range, with widely scattered populations that are mostly or entirely clonal. It is known to occur on forested bluffs, talus slopes, and stream banks. It occurs on a variety of geologic substrates, soils and aspects, and under open- to completely closed-canopy conditions. This species has not been recorded in BNF, or in Winston, Lawrence or Franklin counties. It has been recorded from DeKalb, Jackson, Madison, and Tuscaloosa counties.

Alabama snow-wreath and its habitat do not occur within the project site.

TENNESSEE LEAFCUP

Tennessee leafcup occurs mainly on rich wooded slopes in light to dense shade of mixed mesophytic woods on moist loamy and rocky substrates. In Tennessee, habitat includes limestone bluffs, ridges, rocky creek bottoms, and mixed mesophytic forest slopes on the Cumberland Plateau. In Kentucky, it occurs on rich, mesic wooded slopes on loess or alluvial slopes. In Florida, it occurs on thin moist soils directly over limestone bedrock.

Across its range, threats may include logging operations and grazing that result in competition from non-native plants.

Tennessee leafcup is not known from the Bankhead National Forest. Rich mesic woods and limestone bluffs, ridges, glades, outcrops or creek bottoms are not present within the project area.

PINNATE-LOBED BLACK-EYED SUSAN

This species may be found in riparian areas, on moist shaded hardwood slopes, on rich soils, and in association with rock outcrops and cliffs. It is known from 27 sites in Alabama. It was not encountered during field surveys of the project site and there are no records of it in the vicinity within the existing records of plant occurrences.

Range-wide threats include land-use conversion and habitat fragmentation.

The project sites do not contain rock outcrops, cliffs, riparian areas, or moist slopes. 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 these standards, this project will not affect aquatic or riparian plant or animal species.

ALABAMA SKULLCAP

This species is known to occur in Calhoun, Cullman, Etowah, Jefferson and St. Clair counties. It is associated with moist clearings in oak-pine flats. Habitat is described as moist shaded hardwood slopes and rich soils; mixed pine-hardwoods; and forest margins.

This species was not encountered during field surveys, is not known to occur in the Bankhead National Forest, and potential habitat (rich soil) does not exist within the immediate project site.

BLUE RIDGE CATCHFLY

Silene ovata is associated with cliffs, rock barrens, sandstone outcrops and rock houses in rich woods. Although it has been recorded only from Dallas, Geneva, and Marengo counties, potential habitat does exist on the BNF, but not within the project site.

Range-wide threats include heavy logging, grazing, flooding by impoundment, clearcutting, construction and quarrying projects that destroy this species habitat.

Potential habitat does not occur within the project sites. This plant was not encountered during field surveys.

JEWELLED TRILLIUM

This species is known from the Bee Branch area of the BNF. The habitat of this plant is described as rich coves under mature trees, in rhododendron thickets along streams, and at forest edges, frequently on outcrops partially exposed by road building. The plant is associated with moist, "humus" soil.

Appropriate habitat is not available within the project site, and no individuals were encountered during field surveys.

LANCELEAF TRILLIUM

This trillium flourishes in alluvial soils and floodplains. It has been encountered growing in rocky upland woods and brushy thickets. It is commonly associated with moist to wet soils.

Appropriate habitat is was not found within the project site, and no individuals were encountered during field surveys.

RAFINESQUE'S BIG-EARED BAT

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 (1998). 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.

It hibernates in old mines, caves, 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 is described as primarily mature forests in both upland and lowland areas.

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 (Bat Conservation International 2001).

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.

Habitat for Rafinesque's big-eared bat is not present within the project area. This bat's presence has not been confirmed on the BNF or surrounding areas although a recent catch (August 2006) of this species was made in Jackson County, Alabama by Keith Hudson of the Alabama Department of Conservation and Natural Resources. No impact is anticipated for this species.

CADDISFLIES

Two sensitive species of caddisflies may be found in the BNF. *Hydroptila paralatosa* is found in small streams of the fall line and has been collected in Winston County. *Rhyacophila carolae* has been collected in a small tributary of Bee Branch in the BNF. Threats and population estimates are not available from NatureServe for either of these species.

Caddisflies are confined to water during the majority of their life cycle. Adults of most species are inactive during the day and active during the evening (Harris et al., 1991).

The proposed project will not be conducted within nor affect aquatic habitats. There are no streams present within the project sites. 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 these standards, this project will not affect aquatic or riparian species.

ALABAMA SPIKE, SOUTHERN CREEKMUSSEL, SOUTHERN HICKORYNUT, ALABAMA HICKORYNUT, ALABAMA RAINBOW, ALABAMA (INFLATED) HEELSPLITTER

Potential habitat for these aquatic species exists on BNF. All of these mussel species require habitat stability, including substrate and water quality. These species are sensitive to water quality degradation; sedimentation being an important factor. Ground disturbing activities within a watershed are potential sediment sources. Reservoirs and other waterway projects, as well as kaolin strip mines

have altered Alabama Spike habitat in some areas of this species' range. These threats are not currently factors on the Bankhead.

Several of these species have been collected in the northern portion of the BNF, including the Alabama Spike, Southern Creekmussel and the Alabama Rainbow (McGregor, 1992).

Alabama spike 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 and records. The Alabama Spike (*Elliptio arca*) may be the same species as the Delicate Spike (*Elliptio arctata*).

The southern creekmussel 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.

The Alabama hickorynut is restricted to large streams in the Mobile Basin. It has been extirpated from most of the historical range by stream impoundment and channelization and water quality degradation. This species is currently declining globally and is generally uncommon. It is relatively tolerant of nondestructive intrusion, but heavy recreational use of habitat could be disruptive.

The Southern hickorynut was historically distributed from Alabama to Eastern Texas and in the Mississippi embayment as far north as southeastern Missouri. Alabama counties included in distribution records include Greene, Pickens, Sumter, and Tuscaloosa counties.

The Alabama Heelsplitter or inflated heelsplitter was known historically from the Tombigbee, Black Warrior, Alabama, and Coosa Rivers, Alabama (Hurd 1974; Stern 1976; Hartfield 1989a.). The presently known distribution is limited to the Amite River, Louisiana, and the Tombigbee and Black Warrior Rivers, Alabama (Stern 1976; Hartfield 1989a.). This species is not abundant within any known habitat. Exact population numbers are unknown. The Alabama heelsplitter is found in large rivers and is known from the Cahaba River. It has been recorded in Blount and Jefferson counties. It has apparently not been collected in the Bankhead National Forest.

These species do not exist within the proposed project sites. No mussels were encountered during field surveys as streams are not present. 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 these standards, this project will not affect aquatic or riparian species.

DARTERS

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. 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. Range-wide threats include timber practices, coal mining, proposed reservoirs, and siltation resulting from increased urbanization.

The warrior darter is found in small to medium streams with moderate flow. This species will be found in rubble, bedrock, and gravel-filled pools. This species feeds on aquatic insect larvae. Warrior darter has been collected in the following creeks on Bankhead National Forest; Thompson, Borden and Sipsey Fork. This species is restricted to the Black Warrior River system where the species is common but localized. The species is considered to be currently stable, but threats include habitat alteration and modification due to development and impoundments.

Rush darter has been collected in the Clear Creek system in Bankhead National Forest. Collection sites are characterized as relatively low gradient, small streams with sand substrate and burrweed beds. There are three small known populations of this species. This species is uncommon and vulnerable to habitat alteration and decreases in water quality.

Tuscumbia darter is found in limestone spring ponds and runs with aquatic vegetation present. Tuscumbia darter has a narrow range in springs along the Tennessee River in Alabama. Populations are vulnerable to land use changes. Other threats include siltation, changes in the water table, predation, and loss of aquatic vegetation. This species is especially sensitive to changes in physical habitat, such as temperature or turbidity.

The longhead darter, also known as the warrior brinled darter, is known only from the upper Sipsey Fork of the Black Warrior River, where abundance is low. It has been collected within the Bankhead National Forest in the Sipsey Fork. This darter is currently only known from a 10 mile stretch of the Sipsey Fork. This population is believed to be stable. Current threats are reported to be sedimentation. Implementation of riparian zone protection should reduce threats. Additionally, the large amount of truck traffic crossing bridges over the Sipsey Fork present a potential threat in the form of an accidental spill.

These species do not exist within the proposed project sites. 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 these standards, this project will not affect aquatic or riparian species.

BLACK WARRIOR WATERDOG

The Black Warrior waterdog is an aquatic salamander that is known to occur in the Lower and Upper Sipsey Fork and Lower and Upper Brushy watersheds in the Bankhead. Optimal habitat is described as free-flowing large streams or small rivers with forested streamside zones. Detectable flow and leaf packs within streams are required. Other factors contributing to habitat quality include a low silt load and substrate deposits, low nutrient content and bacterial counts, moderate temperatures, and minimal overall chemical pollution. This salamander is currently known from 10 locations, the populations are highly fragmented, the population densities are low, and habitat conditions are degraded in general. Habitat degradation and fragmentation are threats to this species.

This salamander and its habitat do not exist within the proposed project site. Aquatic species were not encountered during field surveys as streams are not present within the project area. Water courses are present outside of and downstream of the project. 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 these standards, this project will not affect aquatic or riparian species.

EGGERT'S SUNFLOWER

This plant lives in open oak/pine woodlands and grasslands and was federally listed as threatened in 1997 (USFWS 1997) and was de-listed in 2005. It is now on the Forest Service "Sensitive" list. It blooms in July and August, with flowers (actually composite heads of many small flowers) that are relatively large being about 3.5 inches in diameter, its stem is smooth and waxy, and the tapering leaves with rounded bases are smooth except for a scattered roughness on the upper surface (Pyne, 1998). The habitat has been described as rocky hills, barrens or open upland oak-pine woods. Soils can be sands, clays, chert or gravel or open upland woods (Kral 1983). The open wood habitats are often dominated by oak forests, specifically white oak, black oak and southern red oaks, as well as hickories and pines. The barrens are openings dominated by perennial grasses and herbs (Jones 1994).

It prefers a habitat type which was presumably more widespread when fire was a more common event in the landscape. This grass and herb-dominated habitat type is grasslands, woodlands and barrens, and is related to the prairies of the Midwest, both in structure, species composition, and ecology (Pyne, 1998). Eggert's sunflower is thought to be a relict species of the fire-dependent barrens habitats, sustained by lightning fires and aboriginal burning at a landscape scale (Jones, 1994).

Under present conditions, this community persists on roadsides and recently disturbed areas. In Alabama, this species has been found in Franklin and Winston counties outside of the established administrative boundary of the Bankhead, in open ridge top oak savannahs. Recent surveys of sites to be treated within the Forest Health and Restoration Project did not reveal the presence of this species. There are no documented findings of this plant on Forest Service owned lands within Bankhead National Forest.

This plant is not known to exist on the Bankhead National Forest. Although it has been found near to the administrative boundary of the Bankhead, all previous plant surveys since 1997 as well as those conducted recently have failed to locate a single remnant plant or other population of this species within the areas to be treated. For that reason, the project will have no affect on Eggert's sunflower.

Forest Service Sensitive Species

WHITE FRINGELESS ORCHID

Habitat for this orchid is generally described as wet, boggy areas, stream heads, or seepage slopes in acidic muck or sand, in flat or at the bottom of sharply sloped streamside in association with species of Sphagnum moss and Cinnamon fern, chain fern and/or New York fern. Soils are permanently moist, but are not often flooded.

This species has been encountered in one location on the Bankhead. This species of limited distribution is threatened across its range by land-use conversion, habitat fragmentation, succession, pollution, and to a lesser degree by forest management practices.

Potential Management Effects and Determination

There were no wetland or stream side areas that provide habitat for this species within the project area. 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 these standards, this project will not affect aquatic, wetland or riparian species.

SPREADING YELLOW FALSE FOXGLOVE

Spreading yellow false foxglove has been found in Tennessee, Alabama and northwestern Georgia. This species has also been encountered in Cherokee County, which is in northeastern Alabama. An apparent undocumented report of it has been made on Bankhead but the location is not recorded. It is reported to occur in an open mature oak woodland setting. This particular species, *Aureolaria patula*, has been found on river bluffs in Tennessee. Other species of *Aureolaria* are found on a variety of sites from upland hardwoods to sandy sites of the coastal plain.

Threats include destroying overstory shading, allowing invasion of exotic weeds, runoff and erosion according to NatureServe. This species will tolerate canopy gap creation and low fires.

Thinning operations will have no impact on spreading yellow false foxglove. This plant and its habitat were not encountered during field surveys. The project sites do not contain known habitat for this plant. There is no impact anticipated, as habitat for this plant is not present on the project area.

SWEET PINESAP

This small saprophytic plant is often found in dry sandy (acidic) woods, and is usually found in pine and mixed pine/hardwood stands. It has been cited as an associate of mature southern yellow pine forests, and open woodland or savannah settings. Additional habitat has been described as open mature oak woodlands, with a pine component. 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. In the south, it occurs in the mountain foothills and piedmont areas.

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

Given the community association of occurrence, 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. Management activities used to achieve woodland restoration may disturb individuals in the short-term, but should improve habitat conditions in the long-term. Restoration efforts may have a beneficial impact for this species.

Sweet pinesap was not observed on the survey of the project area, although it has only been documented rarely on BNF. This plant is only known from a very few locations over the Bankhead and attempts to relocate previous known populations have failed. Surveys of thousands of acres of similar sites across the forest have been made for the Forest Health and Restoration Project and this species was not found on any of the sites. The project will have no impact on this species.

CLAMMY LOCUST

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.

Clammy locust is reported to be present in a single wildlife opening on Bankhead National Forest. Dr. Jimmy Huntley confirmed the presence of clammy locust in the wildlife opening however no other locations of this species have been identified. Lack of disturbance leading to succession and unknown causes of decline are moderate threats to this species.

Potential Management Effects and Determination

Partial canopy removal should prove beneficial to this species. Management activities used to achieve woodland restoration may disturb individuals in the short-term, but should improve habitat conditions in the long-term. Restoration efforts may have a beneficial impact for this species.

Clammy locust was not encountered during field surveys and there are no known populations on these sites. The wildlife opening where clammy locust is known to occur on the BNF is in the southern portion of the District and is over 12 miles distant from these locations. There will be no impact to clammy locust from this project.

DIANA FRITILLARY

This butterfly is described as a woodland species that is associated with stream habitat and riparian areas. The species uses a variety of habitat components including hardwood woodlands and mixed pine/hardwood woodlands and forests. Breeding habitats are generally described as mesic forests such as cove forests and sometimes bottomland areas. Adults also use adjacent fields, pastures, shrublands, grasslands, meadows, glades and woodlands for nectar.

This species is somewhat common in the mountains in a small area from southwestern Virginia to the Great Smokies region and rare and sporadic elsewhere. Forest Service records do not indicate this species presence on the Bankhead. Diana fritillary may have the potential to occur on Bankhead.

According to NatureServe, there are no useful estimates of numbers of this species to address global abundance. Again, this species is not known from Bankhead, so there are no estimates of population size to address local abundance either.

Potential Management Effects and Determination

Thinning operations will have no impact on this species. Potential breeding habitat areas along streams will not be disturbed.

Diana fritillary habitat may benefit over the long term through this project and other woodland restoration projects across the Bankhead. Distribution, quality and abundance of woodland habitat are expected to improve under the Revised Land and Resource Management Plan and the Forest Health and Restoration Project.

DETERMINATION OF EFFECT - *Forest Service Sensitive Species*

Some species are of concern although not listed as threatened or endangered by the FWS. They have been ranked Globally as G1, G2 or G3 by the Natural Heritage Network of The Nature Conservancy, which means viability concerns throughout their entire range. This may be due to habitat requirements, range limits or particular vulnerability to activities. These species have been listed by the Regional Forester as Sensitive and require special consideration in order to ensure that viability is not impaired and to preclude any trend toward the necessity of their being proposed for listing as threatened or endangered by the FWS. According to the Natural Heritage Network rankings, G1 species are critically imperiled globally because of extreme rarity (typically less than 6 occurrences, less than 1,000 individuals or very few remaining acres) or because of some factor(s) making them especially vulnerable to extinction. Species ranked G2 are imperiled globally because of extreme rarity (typically 6-20 occurrences, 1,000 to 3,000 individuals or few remaining acres) or because of some factor(s) making them very vulnerable to extinction. Species ranked as G3 are rare or uncommon (typically 21-100 occurrences or 3,000 to 10,000 individuals) throughout its range; or found locally, even abundantly, in a restricted range (e.g. in a single state or physiographic region); or vulnerable to extinction throughout its range because of specific factors. Rankings begin with a T instead of a G are used for subspecies and two rankings together, such as G2G3, indicates uncertainty in the ranking of that species. A question mark (?) indicates some doubt concerning the status of the species or subspecies. Rankings preceded by an S indicate the status inside the state of Alabama as determined by the Alabama Natural Heritage Program. The list of plant and animal species is based upon the Southern Region Sensitive Species, revision August 7, 2001.

The determination is “no impact” for the sensitive species of plants, bryophytes, and other wildlife. The rationale for this finding is that these species and their habitat are not present on the project sites and will not be impacted by the proposed project.

Forest Service Sensitive Species of the Bankhead National Forest

Scientific Name	Common Name	Status ¹	Finding
<i>Aesculus parviflora</i>	Small flowered buckeye	S	No impact
<i>Astragalus tennesseensis</i>	Tennessee Milkvetch	S	No impact
<i>Aureolaria patula</i>	Spreading yellow false foxglove	S	No impact
<i>Carex brysonii</i>	Bryson's sedge	S	No impact
<i>Delphinium alabamicum</i>	Alabama larkspur	S	No impact
<i>Diervilla rivularis</i>	Riverbank bush-honeysuckle	S	No impact
<i>Hymenophyllum tayloriae</i>	Gorge filmy fern	S	No impact
<i>Jamesianthus alabamensis</i>	Alabama jamesianthus	S	No impact
<i>Juglans cinerea</i>	Butternut	S	No impact
<i>Leavenworthia alabamica</i> <i>var. alabamica</i>	Alabama Gladecress	S	No impact
<i>Leavenworthia crassa</i>	Fleshyfruit Gladecress	C&S	No impact
<i>Lesquerella densipila</i>	Duck River Bladderpod	S	No impact
<i>Monotropsis odorata</i>	Sweet pinesap	S	No impact
<i>Asplenium x ebenoides</i>	Scott's Spleenwort	S	No impact
<i>Marshallia trinervia</i>	Broadleaf Barbara's buttons	S	No impact
<i>Minuartia alabamensis</i>	Alabama Sandwort	S	No impact
<i>Neviusia alabamensis</i>	Alabama snow-wreath	S	No impact
<i>Platanthera intergrilabia</i>	White fringeless orchid	C&S	No impact
<i>Polymnia laevigata</i>	Tennessee Leafcup	S	No impact
<i>Robinia viscosa</i>	Clammy Locust	S	No impact
<i>Rudbeckia triloba</i> <i>var. pinnatiloba</i>	Pinnate-lobed Black-eyed Susan	S	No impact
<i>Scutellaria alabamensis</i>	Alabama skullcap	S	No impact
<i>Sedum nevii</i>	Nevius' stonecrop	S	No impact
<i>Silene ovata</i>	Blue Ridge catchfly	S	No impact
<i>Talinum calcaricum</i>	Limestone Fameflower	S	No impact
<i>Talinum mengesii</i>	Menge's fameflower	S	No impact
<i>Thalictrum mirabile</i>	Little mountain meadow rue	S	No impact
<i>Trillium lancifolium</i>	Lanceleaf Trillium	S	No impact
<i>Trillium simile</i>	Jeweled Trillium	S	No impact
<i>Speyeria diana</i>	Diana Fritillary	S	No impact
<i>Corynorhinus rafinesquii</i>	Rafinesque's Big-eared bat	S	No impact
<i>Cheilolejeunea evansii</i>	A liverwort	S	No impact
<i>Aneura maxima</i>	A liverwort	S	No impact
<i>Pellia X appalachiana</i>	A liverwort	S	No impact
<i>Nardia lescurii</i>	A liverwort	S	No impact
<i>Plagiochila echinata</i>	A liverwort	S	No impact
<i>Radula sullivantii</i>	A liverwort	S	No impact
<i>Riccardia jugata</i>	A liverwort	S	No impact
<i>Hydroptila paralatosa</i>	A caddisfly	S	No impact
<i>Rhyacophila carolae</i>	A caddisfly	S	No impact

Forest Service Sensitive Species of the Bankhead National Forest				
<i>Elliptio arca</i>	Alabama spike		S	No impact
<i>Obovaria jacksoniana</i>	Southern Hickorynut		S	No impact
<i>Obovaria unicolor</i>	Alabama Hickorynut		S	No impact
<i>Strophitus subvexus</i>	Southern creekmussel		S	No impact
<i>Villosa nebulosa</i>	Alabama rainbow		S	No impact
<i>Etheostoma bellator</i>	Warrior darter		S	No impact
<i>Etheostoma douglasi</i>	Tuskaloosa darter		S	No impact
<i>Etheostoma phytophyllum</i>	Rush darter		S	No impact
<i>Etheostoma tuscumbia</i>	Tuscumbia darter		S	No impact
<i>Percina sp.cf.macrocephala</i>	Longhead darter (Warrior Brinled Darter)		S	No impact
<i>Necturus alabamensis</i>	Black Warrior waterdog		S	No impact

¹S = sensitive; C = candidate for Federal listing

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 requirement 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. A determination of no impact for all “sensitive” species does not require additional mitigation.

MITIGATION MEASURES

Field surveys did not reveal the presence of any plants or animals on or immediately adjacent to the project site as being listed as threatened or endangered by the Fish and Wildlife Service or by the Forest Service as sensitive or locally rare. Forest level mitigation measures that apply to this project include adherence to water quality protective mechanisms as required by the Revised Forest Land and Resource Management Plan of 2004 and as noted in the Forest Health and Restoration Project of September 2003.

PREPARER:

Biological Evaluation Prepared by:

/s/ Tom Counts /s/

Tom Counts
District Wildlife Biologist
Bankhead Ranger District

Field Surveys by BNF Wildlife Staff - Allison Cochran and Tom Counts

Date Completed: August 30, 2006

REFERENCES AND DATA SOURCES

- 50 CFR Part 17 Endangered and Threatened Wildlife and Plants; Proposed Designation of Critical Habitats for Three Threatened Mussels and Eight Endangered Mussels in the Mobile River Basin; Proposed Rule. Wednesday March 26, 2003. Department of the Interior, Fish and Wildlife Service.
- Alabama Inventory List – The Rare, Threatened and Endangered Plants and Animals of Alabama.* The Nature Conservancy, Alabama Natural Heritage Program, June 2004.
- Bailey, M.A. 1992. *Final Report of the Black Warrior Waterdog Status Survey.* Project E-1 Alabama Natural Heritage Program, Montgomery, Alabama.
- Biomonitoring in the Mulberry Fork Watershed, 1999-2001. 2001. Thomas E. Shepard, Patrick E. O’Neil, Stuart W. McGregor, and Wiley P. Henderson. Geological Survey of Alabama, Environmental Geology Division. Tuscaloosa, Alabama. 60 pp.
- Case, F.W. and R.B. Case. 1997. *Trilliums.* Timber Press. Portland, Oregon. 285 pps.
- Dean, B.E., A. Mason, and J.L. Thomas. 1973. *Wildflowers of Alabama and Adjoining States.* The University of Alabama Press. Tuscaloosa, Alabama. 230 pp.
- Dean, B.E., and A. Mason. 1968. *Trees and Shrubs in the Heart of Dixie.* Southern University Press. Birmingham, Alabama. 246 pps.
- Demography and Habitat Requirements of the Black Warrior Waterdog, *Necturus alabamensis.* 2001. Michelle Durflinger, Auburn University. Master’s Thesis, Auburn University. 55 pp.
- Evaluation of Landscape level Habitat Attributes of Indiana Bat (*Myotis sodalists*) Autumn Home Ranges in the Bankhead National Forest, Alabama. Benjamin L. Battle, unpublished Masters thesis at Alabama A & M University, Normal, Alabama. May 2003.
- Final Rule: Endangered and Threatened wildlife and Plants; Endangered Status for Eight Freshwater Mussels and Threatened Status for Three Freshwater Mussels in the Mobile River Drainage. March 17, 1993. Department of the Interior, United States Fish and Wildlife Service.
- Final Rule: Endangered and Threatened Wildlife and Plants: Designation of Critical Habitat for Three Threatened and Eight Endangered Mussels in the Mobile River Basin. July 1, 2004. Department of the Interior, United States Fish and Wildlife Service (50 CFR Part 17 40084 – 40171).
- Florence, S. *Biological Evaluation: Suppression of the Southern Pine Beetle Infestation On the Nantahala and Pisgah National Forests.* Grandfather Ranger District, Nebo, North Carolina.
- Harris, S.C., P.E. O’Neil, and P.K. Lago. 1991. *Caddisflies of Alabama.* Geological Survey of Alabama, Biological Resources Division. Tuscaloosa, Alabama. 442 pps.
- Hartfield, P. D. 1990. *Status survey for Mussels in the Tributaries of the Black Warrior River, Alabama.* USDI, US Fish & Wildlife Service.
- Harvey, M.J., J.S. Altenbach, and T.L. Best. 1999. *Bats of the United States.* Arkansas Game and Fish Commission. 63 pp.

Huntley, J. C. 1995. Biological Evaluation for Amendment Number 14, New SMZ Standards to National Forests in Alabama Land and Resource Management Plan. USDA Forest Service. 22 pp.

Indiana Bat, *Myotis Sodalis*, Maternity Roosts in the Southern United States. By Eric R. Britzke, Michael J. Harvey and Susan Loeb. Southeastern Naturalist, 2003, vol. 2(2):235-242.

Indiana Bat Recovery Plan – Technical Draft, October 22, 1996. U.S. Fish and Wildlife Service, Indiana Bat Recovery Team.

Lein, G. M. 1999. *An inventory of freshwater mussels and the flattened musk turtle (Sternotherus depressus) in selected streams of William B. Bankhead National Forest, Winston County, Alabama.* Challenge Cost Share Agreement #01-CCS-98-006 between USDA Forest Service, National Forests in Alabama and Alabama Department of Conservation and Natural Resources, State Lands Division, Natural Heritage Section.

Lellinger, D.B. 1985. A Field Manual of the Ferns and Fern-Allies of the United States and Canada. Smithsonian Institution Press. Washington, D.C. 389 pp.

McGregor, S.W. 1992. A Mussel Survey of the Streams Draining Bankhead National Forest and the Oakmulgee Division of the Talladega National Forest, Alabama. Geological Survey of Alabama. Tuscaloosa, Alabama. 29 pp.

Menzel, M.A., J.M. Menzel, T.C. Carter, W.M. Ford, J.W. Edwards. 2001. Review of the Forest Habitat Relationships of the Indiana Bat (*Myotis sodalis*). USDA Forest Service, Northeastern Research Station General Technical Report NE-284. Newtown Square, Pennsylvania. 21 pp.

Mettee, M.F., P.E. O'Neil, and J.M. Pierson. 1996. Fishes of Alabama and the Mobile Basin. Oxmoor House, Birmingham, Alabama.

Mount, R.H. 1975. The Reptiles and Amphibians of Alabama. University of Alabama Press, Tuscaloosa, Alabama. pp. 306-308.

Mussels That Matter. US Geological Survey leaflet. USGS, Biological Resources Division. May 1998.

NatureServe. 2003. NatureServe Explorer: An online encyclopedia of life [web application]. Version 1.8. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>.

Personal conversations with

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Ralph Costa, Red-Cockaded Woodpecker Coordinator, USDI, US Fish & Wildlife Service, Clemson University, Clemson, South Carolina.

Dan Spaulding, Curator of Collections, Anniston Museum of Natural History, 800 Museum Drive, Anniston, Alabama.

Dr. Merlin Tuttle, Executive Director of Bat Conservation International.

Pierson, E.D. 1998. Tall Trees, Deep Holes, and Scarred Landscapes: Conservation Biology of North American Bats. *In* Bat Biology and Conservation, T.H. Kunz and P.A. Racey, eds., Smithsonian Institution, Washington. pp. 309-325.

Preliminary Work on Maternity Colonies of Indiana Bats in Illinois. Timothy C. Carter, Steven K. Carroll and George A. Fieldhamer. A Symposium on The Indiana Bat: Biology and Management of an Endangered Species, Lexington, Kentucky, March 29, 2001.

Radford, A.E., H.E. Ahles, and C.R. Bell. 1968. Manual of the Vascular Flora of the Carolinas. University of North Carolina Press. Chapel Hill, North Carolina. 1183 pps.

Revised Forest Land and Resource Management Plan. National Forests in Alabama, Management Bulletin R8-MB 112A, 2946 Chestnut Street, Montgomery, Alabama. January 2004.

Rickett, H.M. 1967. Wildflowers of the United States, Volume Two. McGraw-Hill Book Company. New York. 688 pps.

Roost Tree Use By Indiana Bats and Northern Bats in the Wayne National Forest, Ohio. Department of Biological Sciences, Eastern Kentucky University, Katrina Schultes and Charles Elliott. A Symposium on The Indiana Bat: Biology and Management of an Endangered Species, Lexington, Kentucky, March 29, 2001.

Roost Site Fidelity by Indiana Bats in Kentucky. Mark W. Gumbert, J.M. O'Keefe, and J. R. MacGregor. A Symposium on The Indiana Bat: Biology and Management of an Endangered Species, Lexington, Kentucky, March 29, 2001.

Schotz, A.R. 2001. Threatened and Endangered Species: Eggert's Sunflower. *Alabama's Treasured Forests*. Fall 2001. 25.

Simon, S.A. 2000. *Biological Evaluation for Regional Forester's Sensitive Species and Locally Rare Species: Nantahala and Pisgah Plan Amendment #10, National Forests in North Carolina*.

Status Survey of the Blueface Darter, *Etheostoma* sp. cf. *E. zonistium*, in upper Sipsey (Mobile Basin) and Bear Creek (Tennessee River Drainage) of Alabama. 2002. Bernard R. Kuhajda and Richard L. Mayden, University of Alabama. Submitted to US Fish and Wildlife Service, Jackson, Mississippi.

The Nature Conservancy, Alabama Natural Heritage Program. 2001. *Alabama Inventory List – The Rare, Threatened and Endangered Plants, Animals and Natural Communities of Alabama*. Montgomery, Alabama.

USDA Forest Service. 1994. Management Standards for Streamside Management Zones. National Forests in Alabama. 8 pp.

USDI, US Fish & Wildlife Service. 1991. Kral's Water Plantain Recovery Plan. Jackson, Mississippi.

USDI, US Fish & Wildlife Service. 1993. Final Rule: Endangered and Threatened wildlife and Plants; Endangered Status for Eight Freshwater Mussels and Threatened Status for Three Freshwater Mussels in the Mobile River Drainage.

USDI, US Fish & Wildlife Service. 1996. Alabama Streak-Sorus Fern Recovery Plan. Atlanta, Georgia.

USDI, US Fish & Wildlife Service. 2002. Alabama's Federally Listed Species by County as Updated June 2003. Daphne Ecological Services Field Office web page. <http://daphne.fws.gov/es/specieslst.htm>

USDI, US Fish & Wildlife Service. Species Profile for federally listed clams. U.S. Fish and Wildlife Service Division of Endangered Species homepage. http://ecos.fws.gov/species_profile/species_profile.html

USDI, US Fish & Wildlife Service. Species Profile for federally listed plants. U.S. Fish and Wildlife Service Threatened and Endangered Species homepage. <http://endangered.fws.gov/i/q.html>

USDI, US Fish and Wildlife Service. 1994. Recovery Plan for Tennessee Yellow-eyed Grass (*Xyris tennesseensis* Kral). US Fish and Wildlife Service, Jackson, Mississippi. 24 pp.

USDI, US Fish and Wildlife Service. 1996. Leafy Prairie-clover Recovery Plan. US Fish and Wildlife Service, Atlanta, Georgia. 74 pp.

USDI, US Fish and Wildlife Service. 1996. Recovery Plan for the Lyrate Bladderpod (*Lesquerella lyrata* Rollins). US Fish and Wildlife Service, Atlanta, Georgia. 27 pp.

USDI, US Fish and Wildlife Service. 1998. Technical/Agency Draft Recovery Plan for *Helianthus eggertii* Small (Eggert's Sunflower). Atlanta, Georgia. 32 pp.

USDI, US Fish and Wildlife Service. 2000. Mobile River Basin Aquatic Ecosystem Recovery Plan. Atlanta, Georgia. 128 pp.

Wilson, L.A. 1995. The Land Manager's Guide to the Amphibians and Reptiles of the South. The Nature Conservancy, Southeastern Region. Chapel Hill, North Carolina. 360 pp.

Wilson, L.M. 1999. Biological Opinion on Impacts of Forest Management Activities to Indiana and Gray Bats on the National Forests in Alabama. USDI, US Fish & Wildlife Service. Ecological Services Field Office, Daphne, Alabama.

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