

## APPENDIX D

### Summary of Botany and Wildlife Biological Assessment/Biological Evaluation

#### INTRODUCTION

This is a summary of the Norwood Project Biological Assessment/Biological Evaluations (BA/BEs), and is a review and analysis of actions proposed in the Norwood Draft Environmental Impact Statement (DEIS). The full BA/BEs are in the Norwood project file. The purpose of a BA/BE is to determine how the proposed action and alternatives to the proposed action will affect federally listed species or sensitive species listed by the Rocky Mountain Region (FSM 2670, R2 2600-94-2). The Norwood BA/BEs are prepared in accordance with legal requirements set forth under Section 7 of the Endangered Species Act of 1973 (19 U.S.C. 1536 (c)), and follow standards established in Forest Service Manual direction (2672.42) and the Code of Federal Regulations (50 CFR S402). The Norwood BA/BEs tier directly to the EIS for the revised Black Hills National Forest Land and Resource Management Plan (Forest Plan) as amended, the BA/BE completed for the Forest Plan revision, and the BA/BE prepared for the Phase II Amendment (USDA Forest Service, 2006).

#### DESCRIPTION OF PROPOSAL

The purpose and need for action in the Norwood project area is to enhance vegetative diversity, reduce risk of mountain pine beetle infestation and large-scale wildfire, provide for wildlife habitat needs, and provide a sustainable supply of commercial timber consistent with Forest Plan direction, while providing for management and public access needs.

The Norwood project area is located along approximately 22 miles of the Wyoming and South Dakota border in Pennington County, South Dakota and Weston and Crook Counties in Wyoming. The southernmost point of the project area is approximately 7 miles directly east of Newcastle, Wyoming. The project area includes approximately 46,458 acres, 42,252 of which are National Forest System lands and the remaining 4,206 acres are private.

There are several arterial roads, which access the project area including, NFSR (National Forest System Road) 110, 111, 117, 284, 301, 810, and 811. The Beaver Creek cross-country ski trail area is closed to all motorized vehicles, including snowmobiles during the winter months. Portions of the designated snowmobile trail system occur within the northern part of the project area.

The following is a brief description of each of the action alternatives:

**Alternative 2 – Proposed Action:** This alternative was developed to meet the Purpose and Need for Action described in Chapter 1. It represents the IDT's best recommendation prior to detailed analysis of the environmental effects and public scoping. This alternative proposes commercial and non-commercial vegetation treatments, understory fuel treatments, and various road related actions. Fuel treatments are concentrated around private lands.

**Alternative 3:** This alternative was developed to address Significant Issues #1 (aspen restoration) and #3 (mountain pine beetle risk). The elements of this alternative which differ from the Proposed Action, Alternative 2, are: 1) increased aspen restoration treatments, and 2) additional acres and more intensive commercial thinning to reduce mountain pine beetle risk.

**Alternative 4:** This alternative was developed to address Significant Issue #2 (pine structural diversity). The elements of this alternative differs from the Proposed Action by including a reduction in the amount of commercial thinning, POL thinning, and seedcut treatments in the project area.

## **PRE-FIELD REVIEW AND RECONNAISSANCE**

### **Botany**

A list of Federally endangered, threatened, and proposed species was provided by U.S. Fish and Wildlife Service via their South Dakota Field Office internet website (<http://southdakotafieldoffice.fws.gov/endsppbycounty.htm>), last updated on May 18, 2006. **No federally listed or proposed plant species occur** on the Black Hills National Forest.

A pre-field review of Region 2 sensitive plant species and their potential habitat was completed using existing district data, communication with forest personnel, and the BA/BEs for the 1996 Black Hills National Forest Land and Resource Management Plan (LRMP), and the 2005 Phase II Amendment to the Revised Forest Plan. Based upon this review, habitat may exist within the Norwood Analysis Area for seven R2 sensitive species. Other sensitive species were dropped from the analysis due to the lack of suitable habitat and, therefore, impacts to those species.

Botanical surveys were conducted in 2002, 2003, 2004, and 2006 to collect information related to plant communities, assess sensitive species habitat and identify locations of target plant species (ie - sensitive species, state-listed species and species of local concern). Hillshade, a GIS model, estimates high-probability sensitive plant habitat based upon shade/moisture. It was used to determine survey areas within the analysis area. No R2 sensitive species were found during the surveys.

### **Wildlife**

A pre-field review for R2 sensitive species and Federally listed endangered, threatened and proposed wildlife species was completed. This review included: District records, South Dakota Natural Heritage Program database, RMBO monitoring records, South Dakota Breeding Bird Survey records (Peterson 1995), Land Snail Survey Report (Frest, 1991-2001), and Black Hills bat survey records (SDGF&P Report 2003-05). Field surveys were conducted in the Fall/Winter of 2004 and throughout 2005.

## **DETERMINATION OF EFFECTS**

### **Botany**

The probability of negative effects on sensitive plants and their habitat is low as there are no treatments proposed in neither the *Picea glauca* communities that were identified as suitable sensitive plant species habitat, nor the riparian areas in the Norwood Project Area. There is however, the potential for indirect effects to impact individuals. The five sensitive species that may occur in this habitat are currently known to exist elsewhere on the Black Hills National Forest. Those populations will not be impacted by this project. Therefore, implementation of Alternative 1, 2, 3 or 4 “May adversely impact individuals,

but not likely to result in a loss of viability on the planning area, nor cause a trend toward federal listing or a loss of species viability range-wide” for *Botrychium multifidum*, *Carex alopecoidea*, *Cypripedium parviflorum*, *Lycopodium complanatum* and *Viburnum opulus* var. *americana*.

None of the known occurrences of *Botrychium campestre* on the Black Hills National Forest are located within this analysis area and none will be disturbed by activities associated with this project. While the full extent of the distribution of *B. campestre* is currently unknown, the appearance of aboveground sporophytes at the confirmed sites is indicative of viable populations with extensive supporting underground biomass (including mycorrhizae). Therefore, while loss of unknown individuals may occur in this project area, the viable populations at the known occurrences will not be affected. Based on the information that is available, a determination of “May adversely impact individuals, but not likely to result in a loss of viability on the planning area, nor cause a trend toward federal listing or a loss of species viability range-wide” is made for *B. campestre* relative to implementation of Alternatives 1, 2, 3, or 4.

The confirmed occurrences of *Botrychium lineare* on the Black Hills National Forest are not located within this analysis area and will not be disturbed by activities associated with this project. While the full extent of the distribution of *B. lineare* is currently unknown, the appearance of aboveground sporophytes at the known sites is indicative of viable populations with extensive supporting underground biomass (including mycorrhizae) (Farrar 2004) Therefore, while loss of unknown individuals may occur in this project area, the viable population at the known occurrences will not be affected. Based on the information that is available, a determination of “May adversely impact individuals, but not likely to result in a loss of viability on the planning area, nor cause a trend toward federal listing or a loss of species viability range-wide” is made for *B. lineare* relative to implementation of Alternatives 1, 2, 3, or 4.



## Wildlife

Based on pre-field review and reconnaissance, Federally listed and Region 2 Sensitive Species which may occur in the planning area are displayed in the following table. The status of each species is noted. The USFWS list (endangered, threatened and proposed species) for the Black Hills (Custer and Pennington Counties, South Dakota) only the **bald eagle** applies. Also noted in the table is whether each species, or their habitat is present in the Norwood project area.

Species	Status <sup>1</sup>	Species Present <sup>2</sup>	Habitat Present/ Analysis Provided <sup>3</sup>	Habitat Description
Black-footed ferret ( <i>Mustela nigripes</i> )	XN	NO	NO	Prairie dog towns (USFWS 2006b). No reintroduction sites or other known occupied habitat in Black Hills.
Bald eagle ( <i>Haliaeetus leucocephalus</i> )	T	YES	YES	Winter resident in the Black Hills and spring/fall migrant. Usually found near unfrozen water or carrion in winter (Tallman et al. 2002).
Fringed myotis ( <i>Myotis thysanodes</i> )	S	YES	YES	Forages on insects in a variety of habitats including grasslands and forested areas. Roosts in a variety of structures including caves, mines, and buildings (Schmidt 2003a).
Townsend's big-eared bat ( <i>Corynorhinus townsendii</i> )	S	NO	YES	Forages on insects in a variety of habitats including forested and wet areas. Roosts in a variety of structures including caves, mines, and buildings (Schmidt 2003b).
Black-tailed prairie dog ( <i>Cynomys ludovicianus</i> )	S	NO	NO	Short-grass and mixed-grass prairies (USFWS 2006c).
American marten ( <i>Martes americana</i> )	S	YES	YES	Spruce forests with complex near-ground structure, extending into adjacent ponderosa pine stands (Buskirk 2002).
Northern goshawk ( <i>Accipiter gentilis</i> )	S	YES	YES	Forages in a variety of forested areas and small openings; nests primarily in dense mature conifer forests (Erickson 1987).
American peregrine falcon ( <i>Falco peregrinus anatum</i> )	S	NO	NO	Tall cliffs and open areas near water (Johnsgard 1990).
Northern harrier ( <i>Circus cyaneus</i> )	S	NO	NO	Prairies, open fields and marshes (Tallman et al. 2002).
Yellow-billed cuckoo ( <i>Coccyzus americanus</i> )	S	NO	NO	Low elevation riparian areas and woodlands characterized with cottonwood-willow or bur oak (Panjabi 2003).
Burrowing owl ( <i>Athene cunicularia</i> )	S	NO	NO	Dry grasslands and pastures, usually associated with prairie dogs or ground squirrels (Tallman et al. 2002).
Flammulated owl ( <i>Otus flammeolus</i> )	S	NO	YES	Open ponderosa pine forests (McCallum 1994).
Lewis's woodpecker ( <i>Melanerpes lewis</i> )	S	NO	NO	Open burned areas with large snags; oak and cottonwood forests (Anderson 2003, Panjabi 2003).
Black-backed woodpecker ( <i>Picoides arcticus</i> )	S	YES	YES	Burned areas with a high density of pre-burn snags; dense and/or mature forests with a high snag density (Anderson 2003, Panjabi 2003).
American three-toed woodpecker ( <i>Picoides dorsalis</i> )	S	YES	YES	Mature spruce forests, burned areas (Panjabi 2003).
Loggerhead shrike ( <i>Lanius ludovicianus</i> )	S	NO	NO	Open country with scattered, low deciduous thickets (Tallman et al. 2002).

Species	Status <sup>1</sup>	Species Present <sup>2</sup>	Habitat Present/ Analysis Provided <sup>3</sup>	Habitat Description
Grasshopper sparrow ( <i>Ammodramus savannarum</i> )	S	NO	NO	Found almost exclusively in native mixed-grass prairies (Panjabi 2003).
Northern leopard frog ( <i>Rana pipiens</i> )	S	YES	YES	Riparian and wetland areas for tadpoles, subadults, and breeding adults; upland habitats for foraging adults (Smith 2003).
Black Hills redbelly snake ( <i>Storeria occipitomaculata pahasapae</i> )	S	NO	YES	Wet meadows, woodlands, and forest-meadow edge habitat in the Black Hills (Smith and Stephens 2003).
Lake chub ( <i>Couesius plumbeus</i> )	S	NO	NO	Streams or lakes with clear, cool water and clean cobble/gravel substrate; only known population in Deerfield Reservoir (Isaak et al. 2003).
Finescale dace ( <i>Phoxinus neogaeus</i> )	S	NO	NO	Small lakes and cool, boggy environments associated with springs or beaver dams; isolated to the Redwater Drainage – no documented occurrences in the South Dakota portion of the Black Hills National Forest (Isaak et al. 2003).
Mountain sucker ( <i>Catostomus platyrhynchus</i> )	S	NO	YES	Large rivers, lakes, reservoirs, prairie streams but most often in cool, clear, moderately swift mountain streams with mud, cobble, or boulder substrate (Isaak et al. 2003).
Cooper's mountain snail ( <i>Oreohelix strigosa cooperi</i> )	S	YES	YES	Lowland wooded or riparian areas on limestone soils (Frest and Johannes 2002).
Regal fritillary butterfly ( <i>Speyeria idalia</i> )	S	NO	NO	Tall-grass prairie and extensive grasslands with violets (Royer and Marrone 1992).

<sup>1</sup> E = Endangered, T = Threatened, P = Proposed, S = Sensitive, XN = Experimental Population

<sup>2</sup> Species known or suspected to be present in project area.

<sup>3</sup> Suitable habitat known or suspected to occur in project area.

Where species presence is **not** known or suspected, **and** suitable habitat is **not** present or suspected, no further analysis of that species is provided since the proposed project would have *no impact* and would not result in any potential for direct, indirect or cumulative effects.

### **Determinations Summary**

Species for which habitat or presence is suspected or known were analyzed in detail and determinations made. The following table summarizes the determination for each of these wildlife species.

Species	Status <sup>1</sup>	Alternative 1	Alternative 2	Alternative 3
<b>Bald Eagle</b> ( <i>Haliaeetus leucocephalus</i> )	<b>T</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>
<b>Fringed Myotis</b> ( <i>Myotis thysanodes</i> )	<b>S</b>	<b>MII</b>	<b>MII</b>	<b>MII</b>
<b>Townsend's big-eared bat</b> ( <i>Corynorhinus townsendii</i> )	<b>S</b>	<b>MII</b>	<b>MII</b>	<b>MII</b>
<b>American marten</b> ( <i>Martes americana</i> )	<b>S</b>	<b>MII</b>	<b>MII</b>	<b>MII</b>
<b>Northern goshawk</b>	<b>S</b>	<b>MII</b>	<b>MII</b>	<b>MII</b>

<b>Species</b>	<b>Status<sup>1</sup></b>	<b>Alternative 1</b>	<b>Alternative 2</b>	<b>Alternative 3</b>
<i>(Accipiter gentilis)</i>				
<b>Flammulated owl</b> <i>(Otus flammeolus)</i>	<b>S</b>	<b>MII</b>	<b>MII</b>	<b>MII</b>
<b>Black-backed woodpecker</b> <i>(Picoides arcticus)</i>	<b>S</b>	<b>MII</b>	<b>MII</b>	<b>MII</b>
<b>American three-toed woodpecker</b> ( <i>Picoides dorsalis</i> )	<b>S</b>	<b>MII</b>	<b>MII</b>	<b>MII</b>
<b>Northern leopard frog</b> <i>(Rana pipiens)</i>	<b>S</b>	<b>MII</b>	<b>MII</b>	<b>MII</b>
<b>Black Hills redbelly snake</b> ( <i>Storeria occipitomaculata pahasapae</i> )	<b>S</b>	<b>MII</b>	<b>MII</b>	<b>MII</b>
<b>Mountain sucker</b> ( <i>Catostomus platyrhynchus</i> )	<b>S</b>	<b>NI</b>	<b>NI</b>	<b>NI</b>
<b>Cooper's mountain snail</b> ( <i>Oreohelix strigosa cooperi</i> )	<b>S</b>	<b>MII</b>	<b>MII</b>	<b>MII</b>

<sup>1</sup> E = Endangered, T = Threatened, P = Proposed, S = Sensitive, XN = Experimental Population

**NE** = No Effect **NI** = No Impact **MII** = may may adversely impact individuals, but not likely to result in a loss of viability in the planning area, nor cause a trend to federal listing.