FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

Main Boulder Fuels Reduction Project

Big Timber Ranger District
Gallatin National Forest
Sweet Grass and Park Counties, Montana

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Lead Agency: USDA Forest Service

Responsible Official: Becki Heath
Forest Supervisor
Gallatin National Forest
P.O. Box 130
10 East Babcock
Bozeman, MT 59771

For Further Information, Contact: Bill Avey
Big Timber District Ranger
225 Big Timber Loop Road
Big Timber, MT 59011
406-932-5155

Or: Barb Ping
Interdisciplinary Team Leader
Bozeman Ranger District
406-522-2558

Abstract: This Final Supplemental Environmental Impact Statement (FSEIS) replaces the effects analysis for the Northern goshawk in the Main Boulder Fuels Reduction Project FEIS (pages 3-80 and 3-81) and includes an amended Biological Evaluation for Sensitive Species, responses to the Draft Supplemental Environmental Impact Statement, and 2005 Northern goshawk survey results. The Main Boulder Fuels Reduction Project is part of a continuing effort by Federal, State, and local agencies and groups to address the risk of fire in the Main Boulder drainage. The proposed actions include vegetative and fuel treatment management activities designed to provide for public and fire fighter safety, extend the potential time available for evacuation in the event of a wildfire, reduce fuel loadings, and break up the composition of vertical and horizontal fuels in the river corridor.

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I. Introduction

This Final Supplemental Environmental Impact Statement (FSEIS) replaces the effects analysis for the Northern goshawk in the Main Boulder Fuels Reduction Project FEIS (pages 3-80 and 3-81). This information was added in order to clarify discrepancies in the goshawk analysis and determinations between the FEIS and the Biological Evaluation (BE), providing additional supporting information. This FSEIS clearly displays the potential environmental consequences of the proposed actions on the Northern goshawk.

In order to place this analysis in the proper context, the reader will need to refer to the Main Boulder Fuels Reduction FEIS. Incorporate by reference the entire FEIS with the exception of the replaced pages 3-80 and 3-81. Included as a part of this document are a revised Biological Evaluation for Sensitive Species (Appendix A), Responses to comments for the DSEIS (Appendix B), and 2005 survey results and location maps (Appendix C). The reader should review the purpose and need of the project as well as the alternatives. Environmental consequences pertaining to numerous other resource areas are also referenced in the FEIS. If the reader requires a copy the FEIS, please contact the individuals noted on the cover page of this FSEIS.

II. History of the Main Boulder Fuels Reduction Project

The Main Boulder Fuels Reduction Project was initially scoped in 2002. The Notice of Intent to prepare the EIS was published in the Federal Register on November 6, 2002. The Draft EIS was sent out for a 45-day review and comment period in July of 2004. The FEIS and Record of Decision were released on January 3, 2005. Two appeals of the decision were received and were being processed when on April 4, 2005 the decision was reversed. A need was found to supplement the Northern goshawk analysis and potential effects of the proposed action to the Northern goshawk were reconsidered. A Draft Supplemental Environmental Impact Statement was released for a 45-day review and comment period in April 2005. The Final Supplemental EIS and revised Record of Decision are being released concurrently in August of 2005 for a 45-day review and appeal period. For a more complete description of project history, including scoping and public involvement, see page 2-2 of the FEIS.

III. General Background of the Northern Goshawk

Northern Goshawk

> **Indicator:** Effects to Northern goshawks were addressed by evaluating project impacts to nesting and foraging habitat.

A member of the accipiter family of forest hawks, the goshawk is dependent on forested habitat for nesting, fledging young, and foraging habitat. On the Gallatin National Forest in Southwest Montana, goshawk nests are typically found at lower elevations (less than 7,500 feet) in mature to old growth, closed-canopy Douglas fir, lodgepole pine, and spruce/subalpine fir types on gentle to moderate slopes. In particular, many nest

locations are located in tributary drainages off of larger water courses and are usually located at least one half mile from developed roads or permanent structures on north-facing slopes. Minimum patch size for goshawk nest sites is 25 acres, with a patch of at least 125 acres considered optimal (Warren 1990:23). Goshawks nesting in west-central Montana were clearly found to be limited in distribution, and preferred relatively open-grown stands dominated by mature and old-growth Douglas-fir or lodgepole pine located at lower elevations on north-facing slopes (Clough 1994). Younger forests (pole sized and larger trees), including small openings, can provide suitable foraging habitat. Primary prey species usually consist of small mammals and birds. Goshawks typically occupy a home range of approximately 6,000 acres during the nesting season. The home range includes nesting, post-fledging, and foraging habitat and may include a variety of successional stages (Reynolds et. al. 1992:21-27).

IV. Analysis Area and General Habitat of the Northern Goshawk

The Main Boulder Fuels Reduction Project Area consists of roughly 2500 treatment acres, located approximately 30 miles southwest of Big Timber on National Forest System lands. The project area consists of a 24-mile long corridor, which is approximately ½ mile wide, located between the Boulder River and the Inventoried North Absaroka Roadless Area and the Absaroka-Beartooth Wilderness. See page 1-4 of the FEIS for a more detailed description of the project area.

The analysis area of the Forest Service portion of the Main Boulder Fuels Reduction Project is all located in the Main Boulder Watershed, which is made up of timber compartments 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129 and 136 totaling 147,211 acres. The total analysis area consists of approximately 151,000 acres, which includes adjacent private land in-holdings. Approximately 82% of the acres in the timber compartments within the Main Boulder drainage are classified as wilderness and therefore have had only natural disturbance other than trail construction and associated maintenance activities. The Boulder River is eligible for consideration and possible inclusion into the National Wild and Scenic Rivers System as a Scenic or Recreation River. The analysis area used for evaluating all species of wildlife is described in further detail on page 3-64 of the FEIS.

Approximately 2% of the analysis area acres are privately owned. The majority of the analysis area is forested, with vegetation forming a continuous vertical and horizontal canopy.

Recreation is a predominant use in the corridor with approximately 250 structures, many of which are private residences, 25 recreational residences, 4 church camps, 6 Forest Service campgrounds, and numerous trailheads.

Table 1. Forested habitat acreage and percentage in Compartments 116 thru 129 for both pre and post treatment.

Compartment #	Total Treatment Acres	Forested Habitat			
		Pre-Treatment		Post-Treatment	
		Acres	Percent	Acres	Percent %
116	281	7,981	80 %	7,700	73 %
117	333	8,280	95 %	7,947	91 %
118	537	3,192	95 %	2,655	79 %
119	0	6,461	62 %	6,461	62 %
120	70	2,230	48 %	2,160	46 %
121	410	7,173	81 %	6,763	77 %
122	43	8,327	82 %	8,284	82 %
123	36	8,437	77 %	8,401	77 %
124	317	10,253	83 %	9,936	80 %
125	126	7,104	68 %	6,978	67 %
126	76	6,788	85 %	6,712	84 %
127	90	6,500	75 %	6,410	74 %
128	13	3,952	70 %	3,939	70 %
129	155	4,565	62 %	4,410	60 %

It is clearly illustrated in Table 1 that the percentage of forested acres available for goshawk nesting and foraging will decline only slightly, with no timber compartment within the analysis area having a reduction of greater than 7% in total forested acres as a result of treatment actions except for compartment 118. This compartment is linear in shape along the Main Boulder River, thus approximately 16% of the forested acreage will be affected. However, approximately 79% of the compartment will remain in an untreated forest condition after treatments are completed. In addition, this table presents the complete removal of all forested habitat from each unit to assess affects and arrive at percentages. This may be misleading, since all treatment units will follow prescriptions that do not prescribe complete removal of trees and each unit treatment must retain a minimum of 15-20 percent of forested clumps in an untreated condition. Because the project area is located along a developed and inhabited linear corridor and has high levels of human activity, the project area is not likely to ever provide optimal conditions for goshawk nesting or foraging (Reynolds et al. 1992, Graham et. al. 1999) However, most if not all of treated units will still function as adequate goshawk foraging habitat, even after proposed treatments are completed.

Additional information related to vegetative structure/diversity and old growth is found in Appendix A, Section E of the FEIS beginning on Page A-15.

V. Affected Environment and Environmental Consequences

Northern Goshawk – Nesting Habitat (replaces page 3-80 of the FEIS)

Affected Environment

The Gallatin National Forest's protocol for defining goshawk territory requires that the presence and location of an active nest be located on the ground within a defined forested area. The alternate nest locations coupled with habitat distribution are used to define the extent of the territory. Usually play-back tape calls are used to aid in the discovery of goshawk nest locations, but often they are discovered visually (See methodology below). This is because goshawks will aggressively defend active nests and have been known to physically harm humans or other potential predators in defense of their nest locations (Reynolds et. al. 1992, Graham et. al. 1999).

There are no defined goshawk territories in or near the Main Boulder Fuels treatment areas. The regular presence of human activity throughout the river corridor during the active nesting period affirms the likelihood that nesting birds are not present, because their presence or nests would have likely been detected over the many years of high residential and recreational use. Individual and pairs of birds have been seen in the Main Boulder drainage both incidentally and during surveys, but no active nest sites have been discovered corresponding to these sightings (see Appendix A). There is, however, speculation that these birds may be occupying nests in the wilderness drainages that lie within or adjacent to the analysis area. The project does not include any treatments within the wilderness.

Nesting habitat was mapped within the analysis area using definitions of nesting habitat developed by Reynolds et. al. 1992 and Graham et. al 1999, and adjusted for Montana habitats by Clough 1994. Suitable nesting habitat for goshawk is provided in the larger patches of mature to old growth forests, which in the Main Boulder analysis area, occur in the upper or southern most treatment units (Units 14 thru 32), the wilderness drainages surrounding these units, and the area south of the project area further up the Main Boulder Drainage. Based on these findings, it was determined that the area to be treated does not include optimal goshawk nesting habitat, but may provide some adequate foraging opportunities.

Direct, Indirect and Cumulative Effects

For a discussion of the direct, indirect and cumulative effects of Alternative A (no action), refer to page 3-65 of the FEIS.

Proposed treatments within the Main Boulder project area will remove and/or alter some mature and old-growth forest that is suitable for goshawk nesting. Direct effects would be minimal and mitigation have been included in project design and implementation standards to protect and buffer any active raptor nest. Specifically, no activity would be permitted within one quarter mile of any active goshawk nest between March 1 and June 31 and a 100 foot buffer would be retained around any nest tree during treatment of the unit. Indirectly, harvest activities may cause goshawks to use alternate nest sites in response to activities/disturbances associated with project treatments. Goshawks normally have up to 5 alternate nests constructed on any given territory. Nests located further from the Main Boulder Road, which has higher levels of traffic and human presence, would likely improve nest success and reduce disturbance. Cumulative effects to goshawk nesting are not expected because there is abundant nesting habitat adjacent

to project treatment areas. Much of the adjacent habitat is located in wilderness, which would reduce or eliminate the potential for any impacts. The project, when completed, would reduce the risk for a large stand replacement fire in the river corridor, helping to allow for the continued availability of suitable nesting habitat.

Northern Goshawk – Foraging Habitat (Replaces page 3-81 of the FEIS)

Affected Environment

The Main Boulder analysis area contains suitable foraging habitat that is well distributed relative to goshawk nesting habitat. Goshawks hunt for small mammals and medium to large sized birds, typically in closed canopy forest (Graham et. al. 1999:5). They prefer a more open forest understory to provide for maximum flight maneuvering and prey visibility. Goshawks may also hunt forest openings for prey, typically from perch trees along the forest edge (Graham et. al. 1999:5). Many common goshawk prey species including the red squirrel (*Tamiascuirus hudsonicus*), snow-shoe hare (*Lepus americanus*), American robin (*Turdus migratorius*), Steller's Jay (*Cyanocitta auratus*), northern flicker (*Colaptes auratus*), and blue grouse (*Dendragapus obscurus*) are relatively abundant following recent burning and forest successional management (Graham et. al. 1999:5, Hutto 1995).

Direct, Indirect and Cumulative Effects

For a discussion of the direct, indirect and cumulative effects of Alternative A (no action), refer to page 3-65 of the FEIS.

In the short-term, the project could alter and reduce some goshawk foraging habitat. However, the prescriptions for treatment and accompanying prescribed burning in certain units will enhance goshawk foraging habitat over time. Treatment operations may preclude goshawks from foraging in or near units under treatment, but abundant alternate foraging habitat is available both during and after the project is completed.

Indirectly, goshawk foraging habitat could be affected by alteration in the habitat of some goshawk prey species. Silvicultural prescriptions allow for the removal of some snags (Forest Plan snag retention guidelines will be adhered to) that provide nest sites and insect prey for a number of goshawk prey species.

Cumulative effects to goshawk foraging habitat include private land activities, past timber management activities, and past fire suppression efforts. Goshawks tend to avoid areas where human presence and activities are concentrated. Most goshawk nests are located in patches of mature forest where structures and human disturbance is minimal (Reynolds et. al. 1992 and Graham et. al 1999). Based on past survey data, there are no known goshawk nests located on private lands within the project area. Past timber management on private lands has resulted in the removal of suitable foraging habitat in some areas. Fire suppression efforts, particularly in Douglas-fir habitat, have precluded some potential low intensity ground fires that would have produced the open understory stand conditions favored by goshawks. The combined effects of these past activities with the direct and indirect effects of the proposed fuels treatments are not predicted to result in adverse effects to the goshawk population in the Main Boulder River drainage because there is abundant foraging habitat that would be unaffected adjacent to the project area. In addition, there are no reasonably forseeable activities that would affect goshawk foraging habitat in the analysis area. Over the long-term, goshawk foraging

habitat will be enhanced within the project area.

Determination of Effects (Replaces page 3-81 of the FEIS)

The project will remove or alter some existing potential goshawk nesting and foraging habitat. However, suitable nesting and foraging habitat is abundant in adjacent untreated areas, primarily in wilderness. Numerous surveys have been conducted from 1992 through 2005 and no nesting goshawks have been observed in the areas to be treated by the project (Table 10 Appendix A-21, Table 1 Appendix C-1). One incidental observation of an adult goshawk was reported in 1999 from the Box Canyon area (Unit 31 and 32). Further investigation was conducted and no nesting pair or nest location was discovered in the immediate area.

Additional surveys would be conducted annually (both during and after treatment) using play-back tape calls, visual observation, and other accepted methods for sensitive species and MIS potentially present in the treatment areas (Northern goshawk, flammulated owl, northern leopard frog etc.) in order to avoid any potential impacts and gather additional baseline information. The additional surveys are also being incorporated to satisfy the species viability requirements of the National Forest Management Act (NFMA) and the subsequent Gallatin National Forest Viability Assessment for Species of Special Concern (Appendix D of the FEIS).

The proposed treatments and prescriptions include retention of untreated forested clumps and improvement of aspen clones that would improve goshawk foraging habitat over the long-term. Treatment areas would still have canopy closure levels and open understory characteristics favored by goshawks. There is potential goshawk nesting and foraging habitat within the boundaries of the project area. Potential habitat refers to the habitat characteristics preferred by goshawks, but does not infer their presence in any given area. The project may have minor potential disturbance effects, and/or indirect effects on potential goshawk nesting or foraging habitat. This would result from the removal of some potential nest trees and alteration of potential foraging area near the Main Boulder Road. However, this is not optimal nesting and foraging habitat because of the disturbance associated with the road and structures along the corridor. In addition, the majority of the harvest related activities associated with the project would occur during the winter (November 1 to April 30) when goshawks are not present. Page 2-13 of the FEIS contains a more complete description of the timing restrictions for the various proposed activities. Based on these considerations, it has been determined that the project may impact individuals or habitat, but would not lead to a trend toward federal listing of Northern goshawks or loss of viability.

Irreversible and Irretrievable Commitments of Resources

There are no irreversible or irretrievable commitments of resources for Northern goshawks as a result of the proposed action. This call is consistent with page 3-95 of the FEIS, which states, “There are no irreversible or irretrievable commitments of resources for any threatened or endangered species, sensitive plant or wildlife species, or management indicator species as a result of implementation of the proposed action.”

VI. Goshawk Survey Methodology

Goshawks surveys were conducted using standard playback tape calls of goshawk alarm calls (Kennedy et. al. 1993 and Mosher et. al. 1990). Surveys are usually conducted beginning in May thru July when goshawks are present and actively breeding and/or nesting. A cassette tape of a goshawk alarm call was broadcast through a speaker megaphone at approximately 5-minute intervals along each route indicated on the survey maps. (See maps & tables in Amended BE, Appendix A, Appendix C-1 thru C-10). Surveys conducted in May and June of 2005 were done using a new Foxpro digital caller. Between broadcasts of the call, the surveyor listened for any response that would indicate the presence of a breeding goshawk or raptor in the area. If a detection was made, then the goshawk or other raptor would be followed on the vector it traveled away from the detection point in order to track it to a known or expected nest location. Repeated calling and tracking of a detected goshawk or raptor might be necessary in order to locate a nest tree. However, If there was not a nest site located after repeated effort, then it would be determined that the bird was transient in the area or was in a non-breeding status.

VII. Literature Cited

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