



United States  
Department of  
Agriculture

Forest  
Service

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# Environmental Assessment

## Taylor Hills Land Exchange

White Sulphur Springs Ranger District,  
Lewis and Clark National Forest  
Meagher County, Montana



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# Chapter I

## Purpose and Need For Action

### INTRODUCTION

The Forest Service and a private landowner are considering a proposed land exchange on the Lewis and Clark National Forest, within the Tenderfoot Creek area of the Little Belt Mountains, approximately 30 miles north/northwest of White Sulphur Springs, Meagher County, Montana.

Chapter I provides summary and background information regarding the Taylor Hills land exchange proposal, identifies the purpose and need, the scope of the proposal and the analysis, the responsible official and decision to be made, public scoping and issue resolutions. Map 1, Taylor Hills Land Exchange Map is a general vicinity map displaying the location of the proposed land exchange parcels and rights-of-way (ROW) acquisition by the Forest Service and private landowner.

This Environmental Assessment (EA) addresses a proposal to convey 158.83 acres of National Forest System (NFS) land in two parcels near the junction of Tenderfoot Creek and South Fork Tenderfoot Creek and adjacent to the Zehntner Brothers LLC Ranch, herein referred to as Federal "Parcel F1 and Parcel F2" (Maps 2 and 3), in exchange for the Forest Service acquisition of 151.52 acre private inholding, the Taylor Hills Homestead Entry Survey (HES)185 tract located 5 miles easterly in the upper Tenderfoot drainage, owned by Zehntner Brothers LLC (Zehntner), referred to as Parcel Z1 (Map 4). Maps 2, 3 and 4 are ortho-digital photo displays of the two Forest tracts F1 and F2, and the Taylor Hills HES 185 tract Z1, proposed for exchange.

Parcel Z1 (HES 185) is traversed by 1.2 miles of NFS Trails, Taylor Hills Trail No. 344 and Taylor to Placer Trail No. 351, presently without benefit of deeded ROW. The exchange would resolve these ROW issues because it results in HES 185 and the trails thereon coming into National Forest ownership.

Included in the proposed action is an offer by Zehntner to grant road ROW on approximately 0.91 miles of road within Zehntner property on the roadway into Tenderfoot Creek. This includes 0.67 miles on the South Fork Tenderfoot NFS Road No. 6424 and 0.24 miles on Tenderfoot NFS Road No. 6372). In addition, the landowner would grant a bridge crossing ROW across Tenderfoot Creek on an existing bridge at the terminus of Tenderfoot NFS Road No. 6372 (53 feet), as well as grant 2.07 miles of trail ROW on the north side of Tenderfoot Creek (1.26 miles along Tenderfoot Creek NFS Trail No. 342 and 0.81 miles along Bald Hills NFS Trail No. 345) to assure perpetual public access.

Also included in the proposed action is a reciprocal ROW agreement from the Forest Service to grant Forest road easements to Zehntner on approximately 0.66 miles of Forest roads in order to assure long term access into their private inholdings for agricultural

purposes. These easements would be placed on NFS Roads Nos. 6424 and 6372, and a road segment of NFS Trail No. 342.

Also included is a reservation (retention) of road ROW by the United States, Forest Service in conveyance Parcel F1 on a small segment of NFS Road No. 6424 to maintain complete public road ROW on the road system down to Tenderfoot Creek.

## **BACKGROUND INFORMATION**

Howard Zehntner owns the isolated 151.52 acre Taylor Hills HES 185 which is surrounded by NFS lands within the Tenderfoot-Deep Creek Inventoried Roadless Area (I-726). The homestead is located on a south facing aspect about 2 miles down slope and south from the Logging Creek/Tenderfoot Creek divide at the Taylor Hills trailhead. The homestead is located at approximately 6,100 feet elevation. From the homestead, the terrain drops steeply to the south, about  $\frac{3}{4}$  mile to Tenderfoot Creek. A log cabin, barn and storage shed are located on the property.

The Zehntner Brothers Tenderfoot ranch headquarters is located five miles west of HES 185 and downstream on Tenderfoot Creek, near the junction of Tenderfoot Creek and South Fork Tenderfoot Creek. The ranch headquarters adjoins an array of intermixed ownership and irregular boundaries (National Forest, State, and private) See Map 1. Zehntner's desire is to consolidate their ownership for management efficiency.

In 2002, Zehntner Brothers LLC submitted an application to the Forest Service to construct approximately  $4\frac{1}{2}$  miles of timber haul road to access and harvest timber from their private homestead inholding (HES 185). The road would begin near the Taylor Hills trailhead and switch-back down slope and across existing NFS Trail No. 344. An in-holder has rights of reasonable access into private inholdings isolated by NFS lands. In this case, under the condition that reciprocal public access to isolated public lands is granted by the in-holder.

Identified concerns of the proposed road construction included potential impacts to Inventoried Roadless Area values, impacts to wildlife habitat, slash and debris damages to trails from private logging with the potential for closure of NFS Trail No. 344 and Trail No. 351. In addition, soil and water erosion caused by road building and timber harvest on these slopes might impact Tenderfoot Creek, a high quality westslope cutthroat trout fishery. Forest Service personnel and Zehntner's felt there must be a better solution to common management needs rather than creating additional issues through construction of the 4.5 miles of access road and harvest of timber across the homestead inholding. Discussions ensued and agreement was reached to consider a mutually beneficial land exchange and ROW acquisition.

Zehntner ownership near the ranch headquarters includes 0.91 miles of Roads No. 6424 and 6372 (in two segments) which provide access into NFS lands along Tenderfoot Creek area. The USDA, Forest Service does not have ROW on these roads and NFS lands along Tenderfoot Creek are effectively 'land-locked' by private lands from vehicle

access. Zehntner's granting this ROW would provide public road ROW on the sole and historic road route into Tenderfoot Creek, providing connection to the extensive trail system extending upstream and downstream along Tenderfoot Creek.

The County and State segments of Road 6424 allow public access to the boundary of private ownership in Section 30, at which point no public road ROW exists at this time. From that point over the next mile of Road 6424 and 6372, the present good-will of the Zehntner Ranch allows public vehicle access down into the Tenderfoot Creek bridge vicinity and the associated trails and informal road system on the north side of Tenderfoot Creek, during the spring and summer seasons.

Parcels F1 and F2 are not destinations as these are relatively isolated timber areas that are adjacent to or nearly surrounded by private ownership, and do not have road or trail access to their interior areas.

During the fall hunting season however, a lock gate has been installed by the Zehntner Ranch near the ranch buildings, stopping vehicle traffic ½ mile prior to entering private land in Section 30. Because this lock gate site has provided a safe turn-around location, the public has not complained about being stopped ½ mile prior to the actual private boundary, otherwise the lock gate would be located at the top of the steep road pitch with no turn-around facility at the actual Section 30 private boundary.

This good-will access has in the past allowed public vehicle travel to drive across Tenderfoot Creek Bridge and connection to the extensive Forest Service trail system on the north side of Tenderfoot Creek (Trail 342 motorcycle trail and Trail 345 ATV/motorcycle trail). This good-will access has also allowed public vehicle travel within the private lands to drive downstream about ½ mile on the trail as rebuilt as logging road, to the Tenderfoot Falls overlook, and also to drive upstream about ¼ mile on a user created 2-track road into a user developed dispersed camping area that is actually on NFS lands. The Forest Service is now closing that dispersed camping area.

The Zehntner Ranch has had management problems the past couple of years with motorized trail users, and has indicated they will close their private lands on the north side of Tenderfoot Creek to all motorized vehicle travel. The LCNF Forest Travel Plan decision, signed in 2008, closes Forest travel routes on the north side of Tenderfoot Creek to all motorized traffic.

Public trail use across HES 185 is open by the good-will of the Zehntner Ranch for Trails 344 (ATV/motorcycle trail) and 351 (motorcycle trail). These two trails junction within HES 185.

Two parcels of NFS lands totaling 158.83 acres, which are located contiguous to the Zehntner ranch and landlocked to public access, were identified as potential exchange parcels. The private Taylor Hills HES 185 totaling 151.52 acres was identified for acquisition, along with the noted public access needs. Later, reciprocal road easement ROW needs for Zehntner were identified, thereby completing the proposed land



exchange and reciprocal ROW acquisition package. A valuation consultation determined the exchange packages to be of approximate equal value.

An **Agreement to Initiate** (ATI)<sup>1</sup> the land exchange between Zehntner and the United States was formally signed on March 27, 2007 by landowner Howard Zehntner and by Lewis and Clark National Forest Supervisor Lesley W. Thompson.

## **PURPOSE AND NEED FOR THE PROPOSED ACTION**

The overall purpose and need for the proposed exchange and acquisition of easements is to:

- Maintain wildland values and roadless characteristics of the Tenderfoot-Deep Creek Inventoried Roadless Area, including the Taylor Hills Homestead HES 185 inholding;
- Maintain high quality wildlife habitat and maintain undisturbed watersheds downslope in Tenderfoot Creek for Westslope cutthroat trout habitat;
- Acquire and perfect needed public access ROW to assure trail access across HES 185, public road access into the South Fork of Tenderfoot Creek, and public trail access in the Tenderfoot and South Fork Tenderfoot Creek areas;
- Consolidate land ownership for consistent land management objectives.

In addition to protecting wildland values and acquiring and perfecting public access, other benefits of the exchange and acquisition ROW include:

- Protect 1.2 miles of trail within HES 185 from logging impacts. This trail is presently open by good will courtesy of the landowner;
- Maintain other resources on HES 185, including recreation use, soils, and visual aesthetics;
- Acquire and perfect the final 0.91 miles of public road ROW into Tenderfoot Creek for public recreation access. This route is presently open by good will courtesy of the landowner.
- Acquire and perfect 2.07 miles of public trail ROW for Trails 342 and 345, as public ROW into and along Tenderfoot Creek, presently open as good will courtesy of the landowner;
- Consolidate NFS land for management efficiencies, as identified in the Forest Plan;
- Assure current public uses in these areas can continue.

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<sup>1</sup> AN ATI is a non-binding document that identifies the parcels of Federal and non-Federal land considered for exchange. It also describes the terms and conditions of the proposed exchange, how the costs of completing an exchange will be shared between the two parties, and includes a proposed schedule for implementation.

- Management of Federal lands will be more efficient because 3.2 fewer miles of boundary line will need survey and maintenance, and 3.7 miles of needed easements/ agreements for private roads and trails will be eliminated.

## **PROPOSED ACTION**

The United States would acquire the following lands and road and trails ROWs located in Meagher County, Montana:

- Fee title (surface and mineral estate) to 151.52 acre Taylor Hills homestead HES 185, located within Sections 13 and 14, T14N, R5E and Sections 18 and 19, T14N, R6E. This action would eliminate the need to acquire 1.2 miles of trail ROW on Trails Nos. 344 and 351.
- One minor water right in HES 185 for stock use at the rate of 10 gallons per minute (gpm) and total annual volume of 2 acre-feet, with a priority date of December 31, 1917.
- 0.91 miles of public road ROW, 66 feet wide, on Roads Nos. 6424 and 6372, located within Section 30, T14N, R5E through Zehntner property, thereby securing public road access to the South Fork Tenderfoot Creek area and the Forest Service trail system along Tenderfoot Creek;
- One 53 foot trail bridge ROW, 66 feet wide, on an existing private bridge crossing of Tenderfoot Creek at the terminus of Road No. 6372, located within Section 30, T14N, R5E, thereby providing access to the NFS trail system on the north side of Tenderfoot Creek;
- 2.07 miles of public trail ROW, 20 feet wide, on Trails Nos. 342 and 345, located within Sections 19 and 30, T14N, R5E, and Sections 24 and 25, T14N, R4E, thereby securing public trail ROW on the existing trails through the Zehntner private property, connecting with the road and bridge ROW access from the South Fork Tenderfoot Creek road, connecting with the Tenderfoot Creek NFS Trail No. 342 traversing up and down Tenderfoot Creek, and connecting with Bald Hills NFS Trail No. 345 that traverses north-easterly out of Tenderfoot Creek;
- Retain 447 feet of public road ROW reservation, 66 feet wide, on existing NFS Road No. 6424, located in Section 30, Government Lot 18, as part of the conveyance of Lot 18 to Zehntner, thereby retaining needed public road ROW to Tenderfoot Creek.

The United States would convey the following lands and authorize the following road easements to Zehntner property located in Meagher County, Montana:

- Fee title (surface and mineral estate) to 81.82 acres NFS land Parcel F1, located within Section 30, Lots 16, 18, 19 and 20, T14N, R5E, and;

- Fee title (surface and mineral estate) to 77.01 acres NFS land Parcel F2, located within Section 32, Lots 1, 2 NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>, S<sup>1</sup>/<sub>2</sub>NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>, T14N, R5E;
- A total of 158.83 acres, with both parcels adjoining Zehntner owned or managed properties and thereby consolidating Zehntner Ranch management;
- Authorize 1556 feet forest road easement on NFS Road No. 6372, Section 30, Lot 14, T14N, R5E, as 66 foot wide reciprocal road access into Zehntner property along Tenderfoot Creek.
- Authorize 440 feet forest road easement on NFS Road No. 6424, Section 30, Lot 14, T14N, R5E, as 40 foot wide reciprocal road access into Zehntner property at west end of HES 668; and
- Authorize 1506 feet forest road easement on road segment of NFS Trail No. 342, Section 30, Lot 15, T14N, R5E, as 40 foot wide reciprocal road access into Zehntner property on north side of Tenderfoot Creek.

## **RESPONSIBLE OFFICIAL, SCOPE OF THE ANALYSIS, AND DECISION TO BE MADE**

The USDA Forest Service is the lead agency for this analysis. The responsible official is Lesley W. Thompson, Forest Supervisor, Lewis & Clark National Forest, whose authority is delegated by the Director of Recreation, Minerals, Lands, Heritage and Wilderness for the Northern Region.

The scope of the decision is limited to the land exchange proposed by the proponent and the Forest Service and the ROWs acquired and granted by the Forest Service.

If, based on the analysis in this EA and the public comments received, the Responsible Official determines that preparation of an EIS is not needed, then a “Decision Notice” (DN) and Finding of No Significant Impact (FONSI) will be prepared. The DN will document the decision of whether to proceed with the land exchange as proposed and the rationale for making that decision. The FONSI will document the rationale for reaching a finding that the action will not result in significant effects to the human environment.

## **THE BEST INTEREST OF THE PUBLIC**

When considering the public interest, the authorized officer shall give full consideration to the opportunity to achieve better management of Federal lands and resources, to meet the needs of State and local residents and their economies, and to secure important objectives. {36CFR 254.3 (b)(1)}

To determine that an exchange is in the best interest of the public, the authorized officer must find that {36CFR 254.3 (b)(2)}:

- Resource values and the public objectives served by the non-Federal lands or interests to be acquired must equal or exceed the resource values and the public objectives served by the Federal lands to be conveyed, and;
- The intended use of the conveyed Federal lands will not substantially conflict with established management objectives on adjacent Federal lands, including Indian Trust Lands.

Lands or interests to be exchanged must be of equal value or equalized by procedures specified in 36 CFR 254.12, through modification of the exchange proposal, or cash equalization not to exceed 25% of the value of the Federal lands. Land appraisals are completed, reviewed and approved by certified appraisers in accordance with Federal standards.

The Federal and non-Federal lands identified for exchange as well as the rights-of-way (grants and acquisitions) have been appraised in accordance with Federal standards.

The appraisal reports for the Federal and non-Federal estates were completed on October 17, 2007 by Forest Service appraiser Kathleen Lowry-Rickett, ARA. Both reports were reviewed by Forest Service Qualified Review Appraiser, C. Kim Zier on December 13, 2007. The current approved appraisals remain valid until October 7, 2008.

The current estimated market value of the non-Federal estate considered for exchange, comprising of 151.52 acres is \$380,000. The current estimated market value of the Federal estate, comprising of 158.83 acres is \$358,000. The proposed exchange acknowledged that a payment may be required by either party to equalize the exchange. In this case, the Forest Service will make a payment of \$22,000 (16% value of the Federal estate) to Zehntner to equalize this land exchange..

## **REGULATORY FRAMEWORK FOR LAND EXCHANGES**

This proposed land exchange is being considered under the authority of the General Exchange Act of March 20, 1922, as amended (16 U.S.C. 485, 486), the Federal Land Management and Policy Act of 1976, as amended (43 U.S.C. 1715-1717) and the Federal Land Exchange Facilitation Act of 1988 (43 U.S.C. 1716(note), 751(note)).

Direction concerning land exchanges is given in the Code of Federal Regulations, Title 36, Part 254, Subpart A, 254.3. Land exchanges are discretionary, voluntary real estate actions between Federal and non-Federal parties. Until the parties enter into a legally binding exchange agreement, any party may withdraw from and terminate an exchange proposal at any time during the exchange process. The authorized officer may complete an exchange only after a determination is made that the exchange is in the best interest of the public.

## **Chapter II**

### **Issues and Alternatives**

Chapter II describes the scoping process, issues identified in the scoping relevant to the proposed action, and identifies the alternatives to the proposed action, including no action alternative.

#### **PUBLIC SCOPING**

The proposed land exchange and reciprocal ROW's (Rights-of-Way) was listed in the April 1, 2004 NEPA Quarterly Project list for the Lewis and Clark National Forest (LCNF), and has been listed on each Quarterly to date. The Quarterly is on the LCNF public web site.

On May 4, 2004 a scoping letter was mailed to 68 potentially interested individuals, groups, and organizations, describing the proposed action. On May 5, 2004 a Forest Service News Release regarding the proposed land exchange was mailed to newspapers in Helena, Townsend, Great Falls, Harlowton and White Sulphur Springs.

There were 16 respondents. Three were seeking additional information, 4 supported non-motorize trail easements, 7 supported motorized trail easements, 1 requested a wide range of alternatives, and 1 allotment permittee refused to waive grazing rights on exchange lands.

Legal notice of the proposed land exchange and reciprocal ROW acquisition was published in the Great Falls Tribune newspaper on July 19 and July 26 and will be published on August 2 and August 9. It was also published in the Meagher County News on July 17 and July 24 and will be published on July 31 and August 7. The Meagher County Commissioners, Montana Congressional delegation, State Clearinghouse, and Tribal governments were contacted, and as of this date have not provided comment.

The scoping process outlined in the NEPA handbook (refer to 40 CFR 150.7) is designed to determine the potential issues associated with a proposal, and from this list further identify those issues that are significant or "key" to the analysis. The "key" issues are those that the interdisciplinary team determines will be analyzed in detail and are used to guide the analysis of the proposal. The NEPA also provides for the identification and elimination from detailed study those issues that are not significant or "key".

#### **INTERNAL SCOPING**

Internal scoping involved consulting with key Forest Service staff and resource specialists on the White Sulphur Springs District and the Forest Supervisors office.

An interdisciplinary team (IDT) assisted in identification of issues and development of alternatives in response to issues. Copies of written specialist comments are in the project file.

## **SIGNIFICANT ISSUES**

The scoping process led to the identification of issues through public comment letters and through agency review. Two of these issues helped frame the purpose and need for the project, and are: 1) effects to public access in the area, and 2) landownership patterns and management. Eight issues were identified as not significant to the decision. Two more issues were identified as significant to the decision, and are considered throughout the analysis process. They are described below.

### **Issue #1 --- How will the proposal and its alternative affect the Tenderfoot-Deep Creek Inventoried Roadless Area resources?**

The Taylor Hills homestead tract HES 185 (Parcel Z1) lies within the Tenderfoot-Deep Creek Roadless Area I-726. The Federal parcels do not lie within an inventoried roadless area. The following criteria were used to evaluate affects to roadless area characteristics:

- Potential impacts to roadless area characteristics by alternative

### **Issue #2 --- How will the proposal and its alternative affect Threatened, Endangered, Sensitive (TES) or Candidate Species, and Management Indicator Species (MIS)?**

The following criteria were used to evaluate effects to these resources.

- Potential impacts to sensitive plant populations
- Potential for change to wildlife habitat, by alternative.
- Potential for wildlife disturbance, by alternative.

## **OTHER RESOURCE CONCERNS**

The proposal and its alternative may present net changes and impacts to other resources, determined to be non-significant issues. The eight non-significant issues are identified below and are briefly addressed in the analysis.

- What will be the impacts to old growth timber stands?
- What will be the impacts to fisheries or amphibians?
- What will be the impacts to water rights, floodplains, wetlands?
- What will be the net changes and impacts to cultural resources?
- What will be the net changes and impacts to noxious weeds?
- What will be the net changes and impacts to range and allotment management?
- What will be the net changes and impacts to special use permit authorizations?
- What will the net differences in timber values be as exchanged?

## **ALTERNATIVES STUDIED IN DETAIL**

### **Alternative 1: Proposed Action** - Land Exchange and Reciprocal ROW Acquisition as Proposed (See Map 1)

#### **Land Exchange**

- Parcels F1 and F2 exchanged to become private lands ( See Maps 2 and 3)
  - With a reservation to the United States for ROW on 447 feet of Road 6424
- Taylor Hills HES 185 Parcel Z1 exchanged to become NFS land (See Map 4)
  - Trail ROW resolved for Trails 344 and 351 within HES 185

#### **Reciprocal ROW Acquisition**

(See ROW Exhibit A -- Roads)

(See ROW Exhibit B – Trails)

- USDA Forest Service acquire 0.91 miles of public road ROW on Roads 6424 and 6372, and bridge ROW crossing of Tenderfoot Creek at end of road 6372;
- USDA Forest Service to acquire 2.07 miles of public trail ROW on Trails 342 and 345;
- Zehntner to acquire 1556 feet Forest Road Easement on NFS Road 6372;
- Zehntner to acquire 440 feet Forest Road Easement on NFS Road 6424;
- Zehntner to acquire 1506 feet Forest Road Easement on road segment of NFS Trail 342.

### **Alternative 2: No Action** - No Land Exchange and No Reciprocal ROW Acquisition

#### **No Land Exchange**

- Federal Parcels F1 and F2 remain NFS lands;
- Taylor Hills HES 185 Parcel Z1 remains in private ownership

#### **No Reciprocal ROW Acquisition**

- USDA Forest Service would not acquire 0.91 miles of public road ROW on Roads 6424 and 6372 or bridge ROW crossing Tenderfoot Creek.
- USDA Forest Service would not acquire 2.07 miles of public trail ROW on Trails 342 and 345.
- Zehntner would not acquire Forest Road Easements on NFS Road 6372, 6424 and Trail 342.

## **ALTERNATIVES CONSIDERED BUT NOT STUDIED IN DETAIL**

### **Purchase HES 185 and Purchase Needed ROW's Without Exchange of Other ROWs.**

- The Forest Service has extremely limited funds for purchase of resource properties, via the Land and Water Conservation Fund (LWCF) program. Taylor Hills HES 185 has been nominated by the forest for LWCF funding but was not competitive for the limited LWCF funding in comparison with lands with higher priority (nationally) for significant wildlife habitat, endangered species habitat and other values
- Zehntner has indicated to the forest that he has no interest in donating or selling ROW's. -Zehntner's primary interest is land consolidation for economic efficiency.

### **Establish Deed Restriction on Federal Parcels Prior to Conveyance.**

- Such alternative would place conservation easement restrictions on Federal Parcels F1 and F2 prior to conveyance, such as restricting timber removal, levels of grazing or limits on Road Use. Zehntner management requires full economic use of their lands under existing applicable laws and deed restrictions would affect management of their land.
- Also, use restrictions would reduce appraised values of Federal parcels potentially causing the value difference between federal and non-federal exchange parcels to exceed the maximum allowable differences of 25%.
- The environmental analysis shows that deed restrictions are not warranted to comply with legal and regulatory requirements, executive orders, and policy or to meet Forest Plan management objectives.
- The analysis shows the proposal would not adversely affect wetlands, floodplains, wildlife or fish habitat, threatened or endangered species, cultural resources, or prime farmlands or timberlands on the Federal land considered for exchange

### **Address Acquisition of All Needed Trail ROW Down Tenderfoot Creek to Smith River.**

- Public comments received asked the Forest Service to pursue all needed ROWS in the Trail 342 corridor through private ownerships along the entire Tenderfoot Creek, downstream to the Smith River. Such undertaking is outside the scope of this land exchange and reciprocal ROW acquisition analysis with one willing landowner.
- No other landowners along this corridor at this time have expressed interest or willingness to enter into discussions regarding trail ROW agreements with the Forest Service.



**COMPARISON OF ALTERNATIVES**

**Table 2-1 Comparison of Effects of Alternatives According to Key Issues**

Issue	Alternative 1 (Exchange)	Alternative 2 (No Action)
#1 – Affects to roadless area resources	Would ensure that projects proposed on acquired lands would consider impacts to roadless area characteristics. Would retain natural integrity, apparent naturalness, and opportunities for solitude. Improves boundary management.	Potential for impact to apparent naturalness and natural integrity from logging, timber access road construction on private inholding. Potential impacts to opportunities for solitude from private activities and crossing of trail by road construction.
#2 – Affects to Threatened, Endangered or Sensitive wildlife and plant species and Management Indicator Species	No direct impacts to sensitive plants, but potential private development on parcel F1 could impact short-styled columbine population.  Not likely to jeopardize gray wolves; no impacts to lynx habitat & lynx mgmnt direction would be met; no impact to sensitive wildlife; forage/hiding cover for elk remains unchanged	No impacts to sensitive plants  Not likely to jeopardize gray wolves; no impacts to lynx habitat & lynx mgmnt direction would be met (applies only to actions on NFS lands); no impact to sensitive wildlife; potential to impact 400 acres of elk security habitat if new road construction occurs on Parcel Z1

**Table 2-2 Ability of Alternatives to Meet Purpose and Need**

Purpose & Need Criteria	Alternative 1 (Exchange)	Alternative 2 (No Action)
Maintain wildland values and roadless characteristics of Tenderfoot Creek	See above	See above
Maintain high quality wildlife habitat and watershed values	See above Overall net benefit to fish and amphib populations in Tenderfoot if commercial logging precluded	See above Stream channels remain in current condition-no significant recovery
Acquire, perfect needed public road & trail ROW	All potential ROW available w/in exchange acquired or resolved, perfecting 3 access routes into Tenderfoot as well as linear trail up/down creek	Reciprocal ROWs could be required as condition for new road construction. Trails 345 and 351 could be impacted by logging/road activities.
Consolidate landownership for consistent land management objectives	Facilitates boundary management and landownership consolidation	Retains current intermingled private/public ownership pattern with potential for non-conforming actions on private lands

**MITIGATION MEASURES AND MONITORING**

The following mitigation measures will apply if the land exchange and ROW acquisition are completed:

- Noxious weed monitoring and treatment efforts will be conducted along the new road and trail ROW’s.
- Forest Service presence will enforce any road or trail restrictions on NFS lands/ROWs.

## **Chapter III Affected Environment**

Chapter III describes the biological, physical, social and economic conditions that may be affected by implementation of the alternatives

### **Forest Plan Direction**

The analysis area is located within the Northwest Little Belts Geographic Unit LB-1, Management Area F, which emphasizes semi-primitive recreation opportunities while maintaining and protecting other Forest resources.

Management direction for HES 185 (parcel Z1) proposed for acquisition will take on the management area direction and prescription as established in the Forest Plan for adjacent NFS lands. This land exchange and reciprocal ROW analysis will not establish new management direction.

Forest-wide Management Standards J-1 Landownership Adjustment (Forest Plan page 2-62) directs that such adjustments support long-term Forest goals and objectives, as identified in Appendix B. Appendix B directs that such adjustments and exchanges be in the best interest of the public and be on a 'willing grantor basis'.

The Taylor Hills HES 185 (Parcel Z1) was specifically listed as a desirable parcel for acquisition, due to its semi-primitive recreational values and to enhance management (Appendix B, Table B-2). Forest Parcels F1 and F2 were not specifically listed as available for disposal; however Appendix B directs that other areas would be considered for disposal if the offered private land would enhance management, administration or production of Forest resources (Appendix B, page 2).

Forest-wide Management Standards J-2 ROW Acquisition (Forest Plan page 2-62) directs that road and trail ROW acquisitions support long-term Forest goals and objectives, as identified in Appendix C. Appendix C directs that permanent ROW easements be acquired by the Forest as a means of providing long term road or trail access to the National Forest, and that access is needed by the general public for recreation, and by the Forest Service for management and administration.

Appendix C direction continues, stating ROWs are needed for trails and that most existing Forest Service trails are partially on private land without the benefit of recorded easements, and the Forest's long term goal is to resolve all trail jurisdictional conflicts, through acquisition of easements, relocation of trails to federal land, or other suitable means (Appendix C, page 2).

Forest travel plan direction was made in the Little Belt, Castle, and North Half Crazy Mountains Travel Plan EIS and Record of Decision (October 2007) which determined the types and season of use on Forest system roads and trails. This travel plan direction applies to all ROWs proposed for acquisition.

## **Resource Issues**

### **Inventoried Roadless Area**

Taylor Hills HES 185 lies within the boundaries of the 88,400 acre Tenderfoot-Deep Creek Roadless Area I-726, stretching east – west from Smith River east to Logging Creek and north – south from Tenderfoot Creek to north Forest boundary. The area was inventoried and designated in 1978 under the RARE II process (second Roadless Area Review and Evaluation). The Forest Plan did not recommend this area for wilderness designation. I-726 is a geographically large and continuous area having little evidence of disturbance from past or present management activities.

The Roadless Area Conservation Rule (RACR) at 36 CFR 294, issued January 12, 2001, was reinstated in a District Court order in September 2006. The Rule prohibits road construction or reconstruction in inventoried roadless areas unless certain exception criteria are met. The project meets exceptions to prohibitions to road construction or reconstruction in inventoried roadless areas under 36 CFR 294.12(b)(4) and (5) as follows:

(b) Notwithstanding the prohibition in paragraph (a) of this section, a road may be constructed or reconstructed in an inventoried roadless area if the Responsible Official determines that one of the following circumstances exists:

(4) Road realignment is needed to prevent irreparable resource damage that arises from the design, location, use, or deterioration of a classified road and that cannot be mitigated by road maintenance. Road realignment may occur under this paragraph only if the road is deemed essential for public or private access, natural resource management, or public health and safety:

(5) Road reconstruction is needed to implement a road safety improvement project on a classified road determined to be hazardous on the basis of accident experience or accident potential on that road.

Section 294.11 of RACR outlines the responsible official status with respect to decisions of this nature in inventoried roadless areas. It defines the Responsible Official as "The Forest Service line officer with the authority and responsibility to make decisions regarding protection and management of inventoried roadless areas pursuant to this subpart".

### **Existing Conditions:**

The 1964 Wilderness Act considered several attributes in determining whether certain lands possessed wilderness characteristics. These included:

- natural integrity
- apparent naturalness
- opportunities for solitude, and
- opportunities for primitive recreational experiences.

Subsequent evaluations of roadless area qualities included attributes of special features and boundary management (Forest Service Handbook 1909.12 Chapter 70). This analysis will include an evaluation of the proposed actions on these roadless characteristics and compare any changes to the current conditions

The following descriptions of existing conditions are based on Forest Plan evaluations. Conditions in the Tenderfoot – Deep Creek IRA (I-726) are described in Appendix C of the Forest Plan, pages C-83-93). Conditions in the Tenderfoot-Deep Creek IRA were documented in the EIS conducted as part of the Montana Wilderness Study Act review. Subsequent changes, if any, to portions of the Tenderfoot-Deep Creek IRA within the project area since development of the Forest Plan are noted.

Natural Integrity and Apparent Naturalness: The EIS notes that much of the Tenderfoot-Deep Creek area has had little development over time. Recreation use is not developed and leaves little impact. The most intensive livestock use is along Tenderfoot Creek and in Deep Creek Park.

Opportunity for Solitude: The area's size and isolation from development provides opportunities for solitude. Most outside land uses are not noticeable from most parts of the area.

Primitive Recreation Opportunity: The area provides a feeling of isolation, but the terrain does not give a high degree of challenge to the recreationist. Excellent fishing, good trail system, scenery, and floating are the major recreation attractions. The area is large enough that recreationists can stay within the area for several days.

Manageability and Boundaries: The southwest corner is checkerboard ownership. The Williams Mountain Timber Sale (1982) in the south side reduced original RARE II acres by 6,200. The Divide Road relocation reduced the roadless acres by an additional 60 acres (currently at 88,340 per Forest Plan figures; GIS acreages may vary).

## **Threatened, Endangered, and Sensitive Species**

### **Plants**

Forest Service sensitive species are defined as “[t]hose plant and animal species identified by a Regional Forester for which population viability is a concern, as evidenced by: a) significant current or predicted downward trends in population numbers or density or b) significant current or predicted downward trends in habitat capability that would reduce a species’ existing distribution” (USDA Forest Service 2005). Regional Foresters are delegated the authority to designate sensitive plant species based on the definition above (USDA Forest Service 2005). The current USFS Northern Region (R-1) sensitive plant species list was developed October 28, 2004 (Kimbell 2004a). On November 24, 2004, long-styled thistle (*Cirsium longistylum*) was removed from the Regional Forester’s list after completion of a status assessment (Kimbell 2004b).

The current Northern Region sensitive plant species list was reviewed as it pertains to the project area. There are currently eleven sensitive plant species that either occur or are suspected to occur on the Jefferson Division (Belt Creek, Judith, Musselshell, and White Sulphur Springs Ranger Districts) of the Lewis and Clark National Forest. Five species are known to occupy habitat and have documented occurrences in the Jefferson Division. These sensitive plant species are short-styled columbine (*Aquilegia brevistyla*), Northern wild-rye (*Elymus innovatus*), Northern rattlesnake-plantain (*Goodyera repens*), Missoula phlox (*Phlox kelseyi* var. *missoulensis*), and Austin's knotweed (*Polygonum douglasii* ssp. *Austinae*). Six species, English sundew (*Drosera anglica*), linear-leaved sundew (*Drosera linearis*), Hall's rush (*Juncus hallii*), Barratt's willow (*Salix barrattiana*), water bulrush (*Scirpus subterminalis*), and alpine meadowrue (*Thalictrum alpinum*), may also be present on the Lewis and Clark National Forest. Although these species have not been found on the Forest, it is suspected that their habitat may occur. Twelve species are not known to occur on the Jefferson Division of the Lewis and Clark National Forest. These plant species are round-leaved orchis (*Amerorchis rotundifolia*), Lackschewitz' milkvetch (*Astragalus lackschewitzii*), upward-lobed moonwort (*Botrychium ascendens*), peculiar moonwort (*Botrychium paradoxum*), small yellow lady's-slipper (*Cypripedium parviflorum*), sparrow's-egg lady's-slipper (*Cypripedium passerinum*), giant helleborine (*Epipactis gigantea*), Lackschewitz's fleabane (*Erigeron lackschewitzii*), Macoun's gentian (*Gentianopsis macounii*), stalked-pod crazyweed (*Oxytropis podocarpa*), blunt-leaved pondweed (*Potamogeton obtusifolius*), and five-leaved cinquefoil (*Potentilla quinquefolia*). The presence or absence of plant populations or habitat is summarized Table 3-1.

**Table 3-1. Sensitive plant species in the Jefferson Division of the Lewis and Clark National Forest.**

SPECIES NAME	HABITAT PREFERENCE AND OCCURRENCE IN PROJECT AREA
short-styled columbine ( <i>Aquilegia brevistyla</i> )	Open woods and stream banks at mid-elevations in the montane zone. <i>Habitat and plant populations may occur in the project area, but no field surveys have been completed.</i>
Northern wild-rye ( <i>Elymus innovatus</i> )	Sandy meadows, streambank and rocky hillsides to open lodgepole pine or spruce forests. Elevations range from 4,600 to 5,200 feet on the Forest. <i>No habitat or populations occur in the project area.</i>
Northern rattlesnake-plantain ( <i>Goodyera repens</i> )	North-facing, mossy forested slopes in the montane zone. Usually in old-growth/late successional forests. <i>No habitat or populations occur in the project area.</i>
Missoula phlox ( <i>Phlox kelseyi</i> var. <i>missoulensis</i> )	Open, exposed, limestone-derived slopes in foothills and montane zones. <i>No habitat or populations occur in the project area.</i>
Austin's knotweed ( <i>Polygonum douglasii</i> ssp. <i>austinae</i> )	Barren to sparsely vegetated, dry, gravelly, often shale-derived soils of eroding slopes and banks in the montane zone. Elevations range from 4,900 to 7,000 feet on the Forest. <i>No habitat or populations occur in the project area.</i>
English sundew ( <i>Drosera anglica</i> ) (S)	Sphagnum moss in wet, organic soils of fens in the montane zone. <i>No habitat or populations occur in the project area.</i>
linear-leaved sundew ( <i>Drosera linearis</i> ) (S)	Sphagnum moss bogs, organic soils of nutrient-poor fens at mid-elevations in the montane zone. <i>No habitat or populations occur in the project area.</i>

SPECIES NAME	HABITAT PREFERENCE AND OCCURRENCE IN PROJECT AREA
Hall's rush ( <i>Juncus hallii</i> ) (S)	Montane to sub-alpine, wet sloughs to moist or dry meadows and open, grassy slopes. Often associated with fescue grasslands or more moist meadows, sometimes partially shaded. <i>No habitat or populations occur in the project area.</i>
Barratt's willow ( <i>Salix barrattiana</i> ) (S)	Cold, moist soils near or above timberline. <i>No habitat or populations occur in the project area.</i>
water bulrush ( <i>Scirpus subterminalis</i> ) (S)	Shallow fresh water and boggy margins of ponds, lakes, and sloughs in valley, foothill, and montane zones. <i>No habitat or populations occur in the project area.</i>
alpine meadowrue ( <i>Thalictrum alpinum</i> ) (S)	Hummocks, often beneath low shrubs in moist, alkaline meadow in the montane zone. <i>No habitat or populations occur in the project area.</i>

(S) = Suspected to occur on the Lewis and Clark National Forest.

No new field surveys have been completed for Forest Service Parcels F1 and F2. This analysis is based on known sensitive plant occurrences as provided by the Montana Natural Heritage Program (MNHP 2006), the Lewis and Clark National Forest plant atlas, the Lewis and Clark National Forest's sensitive plant species geographic information system (GIS) habitat probability model, and habitat potential as determined by habitat and site characteristics. No sensitive plant species have been documented in the project area (MNHP 2006). Based on pre-field diagnosis, there is a moderate probability that short-styled columbine habitat exists on north-east facing slopes in Parcel F1. However, no field surveys have been conducted to determine if short-styled columbine habitat and plants exist in the parcel. Parcels F2 and Z1 were determined to not contain suitable habitat for designated sensitive plant species. Only the potential effects to short-styled columbine will be discussed below.

### **Desired Condition**

One of the long-range goals of the Lewis and Clark National Forest is to promote high quality, wildlife, and fish habitat to insure a desired mixture of well-distributed species and numbers for public benefit with special emphasis given to sensitive plant, animal, and fish species management (USDA 1986 (Sec. 2-2 (3)), as amended 1993). A Forest-wide management objective is to insure maintenance of sensitive species populations through inventory data collection and program area coordination (USDA 1986 (Sec. 2-5), as amended 1993). Special consideration may be given in land management to maintain genetic diversity (USDA 1986 (Sec. C-2(13)), as amended 1993). Based on the Forest Plan goals, objectives, and management standards, viable populations of sensitive plant species would be maintained across the Forest, and Forest populations would contribute to a viable Regional population (USDA 1993 - Amendment 12).

### **Terrestrial Wildlife**

The National Forest Management Act (NFMA) and its implementing regulations (36 CFR 219.19) require that National Forest System lands provide for a diversity of plant and animal communities to meet overall multiple-use objectives. Specifically, forest planning shall provide for: recovery of threatened or endangered species; maintenance of

viable populations of existing native and desired non-native, wildlife, fish and plant species; management of plant and animal communities that warrant special measures; and management direction which includes objectives for management indicator species. As such, the Lewis & Clark Forest Plan (FP) developed forest-wide management standards to provide for diverse plant and animal communities while achieving multiple-use objectives across the Forest (pp. 2-23 to 2-73 of FP). Management Standards C-1 thru C-5 (pp. 2-30 to 2-37 of FP) provides guidance for management of general wildlife habitat coordination, threatened and endangered species, indicator species, and species that warrant special habitats (old growth, cavity habitat, and rare plant habitats). Management indicator species (MIS) are used to monitor effects of management activities on viable populations of groups of similar species with the same or similar habitat requirements. These MIS groups include: species that are threatened, endangered or sensitive (TES); species that are hunted, fished or trapped; species of special interest; or species having special habitat needs.

Table 3-2 summarizes those Threatened and/or Endangered (T&E), Sensitive (S) and Management Indicator (MIS) species known or suspected to occur within the Little Belt Mountains of the Lewis and Clark National Forest and the potential for these species to occur within the influence zone of the proposed actions. Only those species known or suspected to be impacted by the proposed land exchange (as indicated in the table) will be further addressed in this analysis and Chapter IV.

<b>Species</b>	<b>Existing Habitat Status And Need For Further Analysis</b>
Gray Wolf (E) (MIS)	<i>Not Suspected.</i> The Little Belt Mountain Range supports adequate habitat and a wild ungulate prey base to sustain wolves' part of the year. Although sporadic, unverified sightings have been reported to MDFWP and Forest Service personnel in the past few years, wolves are not known to frequent the Little Belt Mountain Range, and no den sites or rendezvous sites are known to exist within the analysis area or anywhere in the Little Belts. However, the Little Belts may provide linkage zones between known populations in the Northern Rockies and Yellowstone ecosystems. The U.S. Fish and Wildlife Service (USFWS) provides a list of threatened, endangered, proposed and candidate species known or suspected to occur within the Jefferson Division of the Lewis and Clark National Forest; the USFWS last updated the list of T&E species on the Jefferson Division on Aug 8, 2007, and the Endangered Gray Wolf was included on that list. An assessment of exchange effects on Gray Wolves is warranted to full-fill requirements of Section 7 of the Endangered Species Act to complete a Biological Assessment (BA) for listed species. <b><i>Further analysis is warranted, and is incorporated within the Wildlife Assessment.</i></b>
Grizzly Bear (T) (MIS)	<i>Not Suspected.</i> Project area is outside the recognized Recovery Zone for the Grizzly Bear, and this species is not known to occur within the Little Belt Mountain Range. <b><i>Further analysis is unwarranted.</i></b>
Canada Lynx (T) (MIS)	<i>Not Suspected.</i> Exchange parcel Z1 is located within mapped/designated lynx habitat and within Lynx Analysis Unit (LAU) LB6 ( <b>Exhibit -WL1</b> ). <b><i>Further analysis is warranted and is incorporated within the Wildlife Assessment.</i></b>

**Table 3-2. Terrestrial Wildlife Species Of Concern And Status Within The Analysis Area Or Proposed Project Influence Zone**

Species	Existing Habitat Status And Need For Further Analysis
Bald Eagle (S) (MIS)	<i>Possible.</i> The Bald Eagle was removed from the Threatened Species List by the USFWS effective Aug 9, 2007, and is considered a Sensitive Species in R1 of the Forest Service and on the Lewis and Clark NF. Nesting, roosting and foraging habitat does exist along the Smith River corridor west of proposed exchange parcels, and known nest sites and/or nesting territories are located several miles north of proposed exchange properties along the Smith River on private lands. Known eagle use within the project area is restricted to the Smith River and Tenderfoot Creek riparian corridors where eagles have been observed hunting/fishing. The Tenderfoot Creek riparian corridor is located within 1 mile of exchange parcels F1 and Z1, but neither parcel provides substantial foraging habitat for bald eagles. Selection of either exchange alternative would not be expected to alter habitat suitability and adverse impacts on the species would not be anticipated. <i>Further analysis is un warranted.</i>
Peregrine Falcon (S)	<i>Not Suspected.</i> An eyrie (historic nest site) is known to exist on FS lands within the Smith River corridor approximately six miles west of the proposed action, but no eyries or habitat suitable for nesting peregrines are suspected within the influence zone of proposed exchange parcels. Peregrine falcons prey on small to medium-sized birds and often take them “on the wing”. They prefer to hunt in open areas near marshes, riparian areas, and lakes, but will also utilize meadows, parklands, orchards, or hayfields that support good populations of medium-sized terrestrial birds. Although such habitat types suitable for hunting does exist within the Tenderfoot Creek corridor, historical use by peregrines have not been recorded. Selection of either exchange alternative would not be expected to alter habitat suitability and adverse impacts on the species would not be anticipated. <i>Further analysis is unwarranted.</i>
Sage Grouse (C) (S)	<i>Not Suspected.</i> Sage grouse are sage brush habitat obligates, and are known to occur within the private land and Lewis & Clark NF interface dominated by sage brush community types. Lek sites (dancing grounds) are indicative of sage grouse population areas, and several have been recorded on private lands surrounding Lewis & Clark NF boundaries. However, no lek sites or suitable sage brush habitats are known to exist within the influence zone of proposed exchange parcels. Selection of either exchange alternative would not be expected to alter habitat suitability and adverse impacts on the species would not be anticipated. <i>Further analysis is unwarranted.</i>
Black-Backed Woodpecker (S)	<i>Possible.</i> This species prefers conifer forests dominated by large numbers of dead trees where wood-boring beetles occur in large numbers. Areas of recent wildfires and areas of recent beetle infestations provide such habitats. As described in the <i>Affected Environment – General Upland Habitat Conditions</i> section of this report, a recent wildfire (2006 Taylor Hills Wildfire) has occurred within proposed exchange parcel Z1, but only 11 acres of trees were killed. Although Alt 2 may result in future private timber harvest actions within Z1, it is unlikely that many if any of the trees killed by the fire would be merchantable, and would likely not be harvested. Since implementation of either exchange alternative would not likely affect habitat for this species, <i>further analysis is unwarranted.</i>
Flammulated Owl (S)	<i>Not Suspected.</i> Suitable habitat for this species in the form of dry Ponderosa Pine and Douglas Fir forest habitat types does occur in the project area; however, the presence of this species has not been recorded in any of the land bird surveys conducted in the Little Belt Mountain range or Jefferson Division of the L&C National Forest. Selection of either exchange alternative would not be expected to impact this species. <i>Further analysis is unwarranted.</i>



**Table 3-2. Terrestrial Wildlife Species Of Concern And Status Within The Analysis Area Or Proposed Project Influence Zone**

Species	Existing Habitat Status And Need For Further Analysis
Townsend's Big-Eared Bat (S)	<i>Not Suspected.</i> This species occurs in forest edge habitats near cave or mining-shaft nesting sites, and research indicates that the greatest risk known for this species is loss of suitable roost sites, and direct disturbances in caves (Torquemada and Cherry 1995). Such sites do not occur within the project area, and selection of either exchange proposal alternative would not be expected to impact this species. <i>Further analysis is unwarranted.</i>
Wolverine (S) (MIS)	<i>Possible.</i> This species prefers to den at higher elevation sites dominated by large boulder fields, or in areas with large amounts of blown-down timber. Such den site habitats do not occur within exchange parcels or within land areas immediately adjacent. However, this species is known to travel large distances in search of carrion and other food items, and winter track surveys have recorded the presence of individuals within the influence zone of proposed exchange parcels. Future vegetation changes on exchange parcels under either proposal would be unlikely to impact foraging habitat for this species. Since wolverines are sensitive to human activities (such as those associated with recreation, logging, hunting, or livestock management), disturbance impacts could occur under either proposed alternative. However, disturbance impacts would likely be short term and insignificant to population persistence. <i>Further analysis is unwarranted.</i>
Harlequin Duck (S)	<i>Not Suspected.</i> Primary habitat in the form of large, fast-moving streams does not occur in the project area, and no known populations or breeding pairs of this species have been recorded in the Little Belt Mountain range. During spring nesting seasons, Harlequin individuals have been observed along the Smith River west of the proposed exchange, but nesting observations have not been recorded. Harlequins have not been observed in Tenderfoot Creek, and the creek is likely not suitable habitat for nesting. Selection of either exchange alternative would not be expected to impact this species. <i>Further analysis is unwarranted.</i>
Fisher (S)	<i>Not Suspected.</i> The presence of this species has never been recorded in the Little Belt Mountains, and habitat is not suspected. Selection of either exchange alternative would not be expected to impact this species. <i>Further analysis is unwarranted.</i>

**Table 3-2. Terrestrial Wildlife Species Of Concern And Status Within The Analysis Area Or Proposed Project Influence Zone**

Species	Existing Habitat Status And Need For Further Analysis
Northern Goshawk (MIS)	<p><i>Possible.</i> Nesting and foraging habitat in the Little Belts is known to occur in mid and lower elevation Ponderosa Pine, Douglas-fir and lodgepole pine habitat types. Of the 12 goshawk nesting territories known to exist on the White Sulphur and Belt Creek Ranger Districts, none occur on (or within the influence zone of) proposed exchange parcels. Goshawk nesting habitat models developed by biologists for the Lewis and Clark NF did not predict nesting habitat within the F1 or F2 exchange parcels, and field reconnaissance in fall of 2006 validated negative modeling results. Nesting habitat within the private Z1 parcel was not modeled, but FS lands immediately adjacent were selected by the model as potential nesting (<b>Exhibit - WL3</b>); my field reconnaissance in 2006 indicated the presence of potential nesting habitat in Z1 as well. Foraging habitat for this species does occur on all three exchange parcels. Vegetation treatments within F1 and F2 under Alt 1 could impact foraging habitat for this species, and vegetation treatments within Z1 under Alt 2 could impact both foraging and nesting habitat. However, given the amount of suitable nesting and foraging conifer habitat that surrounds all exchange parcels, and the relatively small treatment areas that would be affected, it is likely that any future vegetation treatment actions (under either alternative) would have insignificant impacts on any individual goshawks that may occur within the influence zone of the project and would be unlikely to impact population persistence in the Tenderfoot drainage. Selection of either exchange alternative would not be expected to adversely impact this species. <i>Further analysis is unwarranted.</i></p>
N. Bog Lemming (S)	<p><i>Not Suspected.</i> Occurrence of this species has been documented on the Rocky Mountain Ranger District as well as west of the Continental Divide in Montana, but not in the Little Belt Mountain Range. Habitat in the form of sphagnum bogs, wet meadows, moist, mixed and coniferous forests, alpine sedge meadows, krummholz spruce-fir forest with dense herbaceous and mossy understory, and mossy streamside does not occur in the project influence zone. Selection of either exchange alternative would not be expected to adversely impact this species. <i>Further analysis is unwarranted.</i></p>
Elk (MIS)	<p><i>Known.</i> Summer and fall habitat for elk occurs in the project area, and this species is known to frequent the project area. <b><i>Further analysis is warranted and is incorporated within the Wildlife Assessment in CH IV.</i></b></p>
Mule Deer (MIS)	<p><i>Known.</i> Summer and fall habitat for mule deer occurs in the project area, and this species is known to frequent the project area. However, habitat management coordination requirements for elk meet analysis needs for mule deer. <i>Further detailed analysis is unwarranted.</i></p>
Whitetail Deer (MIS)	<p><i>Known.</i> Primary habitat for this species is located in lower elevations of the Little Belt Mountains. Habitat management coordination requirements for elk meet analysis needs for whitetail deer. <i>Further detailed analysis is unwarranted.</i></p>
Black Bear (MIS)	<p><i>Known.</i> Summer and fall habitat for black bear occurs in the project area, and this species is known to frequent proposed exchange parcels. However, habitat management coordination requirements for big game ungulates (elk) meet analysis needs for this species. <i>Further detailed analysis is unwarranted.</i></p>
Bighorn Sheep (MIS)	<p><i>Not suspected.</i> No habitat or population is known to exist in the project area. Selection of either exchange alternative would not be expected to adversely impact this species. <i>Further analysis is unwarranted.</i></p>

**Table 3-2. Terrestrial Wildlife Species Of Concern And Status Within The Analysis Area Or Proposed Project Influence Zone**

Species	Existing Habitat Status And Need For Further Analysis
Mountain Goat (MIS)	<i>Not suspected.</i> Occurrence of this species in the Smith River Corridor west of the proposed actions was documented in the spring of 2002 when three individuals were sighted within the rocky canyon walls of the Smith River Canyon; occurrences of additional individuals have not been reported since 2002, and it is unlikely that a persistent population exists within the Little Belt Mountains. Habitat for this species is not suspected within the Tenderfoot drainage, and selection of either exchange alternative would not be expected to adversely impact this species. <i>Further analysis is unwarranted.</i>
Mountain Lion (MIS)	<i>Suspected.</i> Habitat and populations occur in the project area. However, habitat management coordination requirements for elk and deer (primary prey species of the lion) meet analysis needs for this species. <i>Further analysis is unwarranted.</i>
Blue Grouse (MIS)	<i>Suspected.</i> Blue grouse inhabit open coniferous forests at mid and high elevations where timber/grassland mosaics occur. Such habitat occurs within exchange parcel Z1, but individuals could also occur within exchange parcels F1 & F2. Nesting and foraging habitat for this species is suspected within all three exchange parcels, and could be impacted by future vegetation management activities if they occurred. But, given the amount of suitable nesting and foraging habitat that surrounds all exchange parcels, it is likely that any future vegetation treatment actions would have insignificant impacts on blue grouse population persistence in the Tenderfoot drainage. Selection of either exchange alternative would not be expected to adversely impact this species. <i>Further analysis is unwarranted.</i>
Beaver Habitat (MIS)	<i>Possible.</i> Beavers build dams on lakes, ponds, or slow moving streams where tall shrubs (willows, ect...) and or soft wood trees (aspen and/or cottonwoods) are plentiful. All exchange parcels contain small stream segments, but soft woods within adjacent riparian corridors are not prevalent. Nor, was the presence of beavers or beaver activities noted during my reconnaissance trips to the project area. Tenderfoot Creek itself supports habitat for beavers, but selection of either alternative would not be expected to adversely impact individuals or habitat within the Tenderfoot drainage. <i>Further analysis is unwarranted.</i>
Bobcat (MIS)	<i>Suspected.</i> Preferred habitat for bobcats is rough, broken terrain in open or semi-open mid to lower elevation forests and riparian corridors that link habitat segments. Habitat management coordination requirements for elk, deer and lynx meet analysis needs for the bobcat. <i>Further analysis is unwarranted.</i>
Golden Eagle (MIS)	<i>Possible.</i> Golden eagles prefer to nest in steep vertical cliffs and hunt open meadows and prairie habitat types in search of prey. No nest sites are known within the influence zone of the proposed exchange, but eagles have been observed hunting open parks and searching for road kills along roadway corridors in the adjacent Sheep Creek drainage. Although not documented, golden eagles also likely hunt parks and private hayfields near exchange parcels F1 and F2 on occasion. Selection of either exchange alternative would not be expected to adversely impact individuals or habitat within the Tenderfoot drainage. <i>Further analysis is unwarranted.</i>

**Table 3-2. Terrestrial Wildlife Species Of Concern And Status Within The Analysis Area Or Proposed Project Influence Zone**

Species	Existing Habitat Status And Need For Further Analysis
Prairie Falcon (MIS)	<i>Possible.</i> This species is known to occur within the rocky canyon walls of the Smith River Canyon west of the proposed project and shares habitat with the sensitive peregrine falcon, but Prairie Falcon nest sites are not known to occur within the Tenderfoot drainage. Foraging requirements for this species are very similar to those of the peregrine falcon, except prairie falcons are suspected to spend more time hunting small mammals and small birds in grassland and prairie habitat types. Although such habitat types suitable for hunting does exist within the Tenderfoot Creek corridor, historical use by Prairie Falcons have not been recorded. Selection of either exchange alternative would not be expected to alter habitat suitability and adverse impacts on this species would not be anticipated. <i>Further analysis is unwarranted.</i>
Northern 3-Toed Woodpecker (MIS)	<i>Suspected.</i> This woodpecker species is fairly common in the Little Belt Mountains; coniferous forest types that contain snags at natural, historic levels are considered suitable habitats capable of maintaining endemic population levels of this species. All three parcels proposed for exchange (and surrounding forests immediately adjacent to these parcels as well) are dominated by mature forest age classes and contain adequate snag numbers to support this species. Because of the large amount of mature forest types within the surrounding landscape, selection of either exchange alternative would not be expected to appreciably alter habitat suitability even if vegetation projects within exchange parcels were implemented in future years that resulted in a net loss of snags. Significant adverse impacts on this species would not be anticipated in either alternative, <i>and further analysis is unwarranted.</i>

T= Threatened, E=Endangered, S=Sensitive, MIS=Management Indicator Species

### **Gray Wolf (E)**

The Little Belt Mountains are part of the Yellowstone National Park (YNP) experimental population area for gray wolves released in 1994. Although wolves have not been released in or near the Little Belt Mountains, they are expected to expand from YNP release sites and may eventually inhabit the project area. These wolves are classified as "nonessential experimental wolves" under section 10(j) of the Endangered Species Act (ESA) of 1973, as amended. Section 10(j) of ESA states that "nonessential experimental animals are not subject to formal consultation of the Act unless they occur on land designated as a national wildlife refuge or national park" (50 CFR Part 17, Fed. Reg. Vol 59, No 224). According to section 7 of ESA, nonessential experimental wolves found outside of national wildlife refuges and national park lands will be treated as if they were only proposed for listing (50 CFR Part 17, Fed. Reg. Vol. 59, No 224). Under section 7, Federal agencies are required to establish conservation programs for the particular species and to informally confer with USFWS on actions that will likely jeopardize the continued existence of the proposed species to be listed as threatened or endangered (50 CFR Part 17, Fed. Reg. Vol 59, No 224).

Although some sporadic sightings of wolves in the Little Belt Mountain Range have been reported to Montana Department of Fish, Wildlife and Parks and Forest Service personnel in the recent past, few sightings have been undeniably confirmed. The latest confirmed observation of a wolf in the Little Belts was reported by Wildlife Services (ADC) personnel in January of 2004. This observation was of a single individual in the

Blacktail Hills area of the Dry Wolf drainage on the Judith Ranger District (several miles east of the proposed project area). Wolves are not known to regularly frequent the Little Belt Mountain Range, and no pack activities (including den sites or rendezvous sites) have been reported in the Little Belts or within the Tenderfoot Creek drainage in recent times. When wolves do occur in the Little Belts, they are most likely single, dispersing individuals from established wolf packs in the Greater Yellowstone and Northern Rockies (northwestern Montana or Alberta, Canada) Ecosystems.

### **Canada Lynx (T)**

As described in the Introduction of this section, the U.S. Fish and Wildlife Service's (USFWS) latest list of threatened, endangered, proposed and candidate species known or suspected to occur within the Jefferson Division of the Lewis and Clark National Forest does not include the Canada lynx; although lynx historically occurred within the Little Belts and habitat for the species is suspected, the Little Belts are currently considered *unoccupied* by lynx per definitions jointly developed by the US Fish and Wildlife Service and US Forest Service and as described in a 2006 amendment to the *Canada Lynx Conservation Agreement* (USDA FS, USDI FWS 2006). Per the amended agreement, USFWS consultation on projects occurring within *unoccupied habitat* is not required. However, in March of 2007, a Record of Decision (ROD) for the *Northern Rockies Lynx Management Direction EIS* was signed; this decision provides lynx management direction (and amends Forest Plans) for all Forests within R1 of the Forest Service, including the Lewis & Clark National Forest (USDA Forest Service 2007). **Per this decision, lynx management direction was incorporated into all forest plans but would only apply to occupied lynx habitat; management direction for forests with unoccupied lynx habitat should be "considered"** (especially the direction regarding linkage habitat), but would not have to be followed until such time lynx occupancy is undeniably established (Ibid). The assessment below describes how the proposed exchange may impact lynx habitat and whether or not implementing either alternative would meet management direction described in the *Northern Rockies Lynx Management Direction EIS* ROD.

**Lynx Population Status:** Verified lynx occurrence records (trapping records, museum specimens, etc...) indicate lynx have historically occurred within the Little Belt Mountain Range (Ruggerio et al. 2000). Montana Fish, Wildlife and Parks records indicate that the last legally trapped lynx in the Little Belts occurred in 1980 and 1981, when three individuals were taken; one of those was taken from the Harley Park Area approximately 7 miles east of the proposed Z1 exchange parcel.

Furbearer snow track surveys conducted by US Forest Service and Montana Fish, Wildlife and Parks biologists in various locations within the Little Belt Mountain range since 1994 have found three separate track sets believed to be that of lynx. One of those was recorded in 1997 near Harley Park, and another was recorded in 2002 near Wet Park; both sets of track records are located within 10 miles east of the proposed Z1 exchange parcel. Track observations are difficult to validate, however, and accurate identification is heavily dependent on snow conditions at the time of observation and the observer's skill and experience in identifying animal tracks.

Biologists on the Lewis and Clark National Forest completed a survey for lynx in the Little Belt Mountain Range during the summer/fall months of 1999 through 2001 using a survey method referred to as “hair snagging,” which utilizes hair snares to capture hair from carnivores enticed by scent lures to detection stations, and DNA testing to validate their visits. The Little Belt surveys were conducted per protocols developed for the National Lynx Survey (McKelvey et al. 1999), and were part of the larger national effort to find any remaining lynx and/or lynx populations in the lower 48 states. These surveys were managed and coordinated by USFS biologists in the Northern Region Office and Rocky Mountain Research Station in Missoula, MT. Several hair samples were collected during the Little Belts survey, and were submitted to the Carnivore Genetics Lab in Missoula for analysis. DNA results from the lab confirmed that hair samples were from bobcats, coyotes, bears, and other mammals, but none were confirmed as being lynx. The Little Belts’ hair snagging survey covered approximately 64,000 acres of contiguous lynx habitat, but did not include any of the Tenderfoot Creek drainage where this proposed exchange would occur.

A Forest Bio-Tech conducting hair snagging surveys in September of 2001 visually sighted what he thought was a lynx near Hoover Springs several miles east of the project area. However, this visual observation (as well as the snow track observations mentioned earlier) lacks positive validation, and it is therefore unknown if any lynx individuals occur anywhere within the Little Belt Mountain range at the present time. As is the case with many occurrence data in the lower 48 states, researchers are currently unsure if historical data in the Little Belts represent the presence of past, persistent populations, or if they represent the presence of linkage zones for immigrating individuals from known populations in NW Montana, Canada or Alaska (Ruggerio et al. 2000).

**Lynx Habitat Status:** Plan direction in the *Northern Rockies Lynx Management Direction* ROD is based in large part upon recommendations in the *Canada Lynx Conservation Assessment and Strategy* (CLCAS) (Ruediger et al. 2000). Using habitat-modeling guidelines provided in the CLCAS, lynx habitat on NF lands within the Little Belts was modeled and mapped, and further subdivided into Lynx Analysis Units (LAU’s) based on 6<sup>th</sup> code watershed boundaries. Modeling parameters are on file at the Lewis and Clark Forest Supervisor’s office. LAUs approximate the size of a female’s annual home range, and encompass all seasonal habitats; they are intended to provide analysis units of the appropriate scale with which to assess potential direct and indirect effects of projects or activities on individual lynx, and to monitor habitat changes. The private exchange parcel Z1 occurs within modeled lynx habitat LAU LB6 (**Exhibit - WL1**). Proposed FS exchange parcels F1 and F2 are not located within mapped lynx habitat. Thus, the assessment that follows in Chapter IV will compare the effects of exchanging for the private parcel Z1 under Alt 1 or not exchanging for parcel Z1 under Alt 2 to applicable lynx standards and guidelines defined in the *Northern Rockies Lynx Management Direction* ROD.

Fire suppression actions over the past 80+ years have interrupted naturally occurring fire regimes that “stand replace” some conifer stands, and homogenous forest conditions now

exist that are less diverse than would have occurred historically. As a result, young stands (10-30 years old) that tend to support good snowshoe hare populations and good foraging habitat for lynx are poorly represented in the Tenderfoot Drainage and within LAU LB6; currently within LB6, only 15% of all habitat suitable for lynx (13,975 acres) is considered suitable for lynx foraging. Fire suppression actions are likely to continue in future years. Regeneration timber harvest can create suitable foraging habitat for snowshoes and lynx, but few to none have occurred in past years, and none are planned for the near future. Most of the Tenderfoot Drainage (and LB6) is within a Forest Plan management allocation (Roadless MA) that does not support significant timber harvest management actions; unless the Forest Plan is changed, significant timber harvest management actions that would improve foraging conditions are unlikely in future years.

### **Management Indicator Species (MIS)**

The National Forest Management Act and its implementing regulations (36 CFR 219.19) require that National Forest System lands provide for a diversity of plant and animal communities to meet overall multiple-use objectives. The Forest Plan developed forest-wide management standards to provide for diverse plant and animal communities while achieving multiple-use objectives across the Forest (pp. 2-23 to 2-73 of Forest Plan). Management Standards (pp. 2-30 to 2-37 of Forest Plan) provide guidance for management of general wildlife habitat coordination, indicator species, and species that warrant special habitats (old growth, cavity habitat, and rare plants). Management indicator species (MIS) are used to monitor effects of management activities on viable populations of groups of similar species with the same or similar habitat requirements. These management indicator species groups include: species that are threatened, endangered or sensitive (TES); species that are hunted, fished or trapped; species of special interest; or species having special habitat needs. TES species identified for analysis in Table 1 (gray wolf and Canada lynx) were discussed in the sections above. There are a number of wildlife game species (hunted or trapped) native to the project area, and they were identified/discussed in Table 1. Elk are one of the most common hunted species in the project area, and since they also tend to be most sensitive to human disturbances, they were selected for further, more detailed analysis in the section below.

Special habitats identified in the Forest Plan include old growth. A brief discussion of the potential for old growth impacts are also discussed below.

### **Elk (MIS)**

The project area provides a wide variety of habitats that supports healthy populations of big game wildlife species native to the Little Belts. Elk and other hunted big game wildlife species (including mule deer, whitetail deer, moose, mountain lions, and black bears) are common to the project area. Use of the exchange project area by these species (including elk) is generally limited to summer and fall months (summer range); the area is not considered elk calving, deer fawning, or big game winter range.

**Population Status:** Elk populations in Montana are managed by Montana Department Fish, Wildlife and Parks (MDFWP) in accordance with the *Statewide Elk Management*

*Plan*, which was first developed in 1992 and recently amended in 2005. The exchange project area is within the Little Belts Mountains Elk Management Unit (EMU), which includes Hunting Districts (HD's) 413, 416, 418, 420, 432, 448, 454, and 540. Exchange parcel F1 is located within HD 416; parcels F2 and Z1 are located within HD 413. Currently, elk population levels within the Little Belts EMU meet or exceed MDFWP population management objectives.

**Habitat Status:** In general existing summer/fall forage quality and quantity for elk within the Little Belts EMU is considered adequate to maintain current elk populations; however, and as was described in the Affected Environment section for Wildlife, fire suppression actions during the past 80+ years have disrupted natural fire cycles, resulting in dense conifer stands with less than desirable forage conditions under the forest canopy for wildlife mammals, especially big game ungulates. Forage availability for big game is also less than desirable in site-specific areas within some livestock grazing allotments where livestock forage utilization is high.

Elk security has been defined by Lyon and Christensen (1992) as “the protection inherent in any situation that allows elk to remain in a defined area despite an increase in stress or disturbance associated with the hunting season or other human activities.” When security is inadequate, elk become increasingly more vulnerable to harvest. As open road densities increase, otherwise secure habitats become more accessible and elk more vulnerable to harvest. This is especially true for bulls because hunting regulations have traditionally allowed greater opportunity for bull harvest as compared to cows. In response to reduced security and additional hunting pressure, elk will seek “safe” areas if they are available. Managing motorized access is one of the few factors affecting elk vulnerability that the Forest Service has management authority for (Christensen et al. 1993). Most other methods of managing elk populations are under the control of MDFWP.

Hillis et al. (1991) provided guidelines for managing elk security and limiting elk vulnerability. The key concept was to provide security areas for elk during the hunting season where they are less vulnerable to harvest. They defined secure areas as >250 acres in size and >0.5 miles from an open road, and recommended that they comprise >30% of analysis units. The 30% secure habitat level should be viewed as the minimum necessary during the hunting season, realizing that more may be necessary in some districts due to variables such as topography, vegetation cover and hunting pressure. Although Hillis' model is based on open roads, recent studies indicate that ATVs and motorcycles cause similar elk flight responses to that caused by full-sized motor vehicles (Wisdom et al. 2005). And for this reason, motorized ATV and motorcycle trails are included in security calculations when evaluating motorized influences on elk security habitat. Currently, HD 413 and 416 contain 26% and 14% secure habitat respectively during the bow hunting season (Sept 1 to Oct 15), and 31% and 15% secure habitat respectively during the rifle hunting season (Oct 15 to Dec 1). Desirable amounts of security habitat (30% or greater by HD, as defined by Hillis et al.) currently only exists within HD 413 during the big game rifle hunting season. **Exhibit - WL2** spatially displays existing security areas within the influence zone of proposed exchange parcels.



**Big Game Summer Range:** The project area provides a wide variety of habitats that supports healthy populations of big game wildlife species native to the Little Belts. Elk and other hunted big game wildlife species (including mule deer, whitetail deer, moose, mountain lions, and black bears) are common to the project area. Use of the exchange project area by these species (including elk) is generally limited to summer and fall months (summer range); the area is not considered elk calving, deer fawning, or big game winter range.

### **Old Growth**

The Lewis & Clark Forest Plan (**FP Management Standard E-4**) requires that a minimum of 5 % of the commercial forest land within a Timber Compartment (TC) should be maintained in an old growth condition – a minimum stand size of 20 acres is recommended for OG retention. Exchange parcels in this proposal occur within three different Timber Compartments: parcels FS 1 and FS 2 are located within TC793, and parcel Z1 is located within TCs 783 and 785. On the Lewis and Clark NF, the OG assessment, designation, and allocation process occurs during the planning stages of major vegetation development projects. However, Forest Plan management allocations (MAs) for the lower and middle reaches of the Tenderfoot do not emphasize timber harvest or other major vegetation actions. As such, the OG allocation process has not been completed for timber compartments where this proposal would occur.

FS parcels F1 and F2 and private parcel Z1 were visited in October of 2006 to assess general forest and habitat conditions. OG characteristics were noted for all three parcels at that time. FS parcels F1 and F2 are primarily mature stands of Douglas fir (DF) mixed with small inclusions of lodgepole pine (LPP). Overall, crown closures for both stands do not exceed 50% and stand ages do not exceed 150 years in age. Most stands within both parcels are single storied and decadency is lacking in both parcels (large numbers of snags and down logs). Stand compositions/structures are similar in the private Z1 parcel, except that LPP is more heavily represented. All three parcels lack sufficient characteristics to be considered OG; none meet minimum requirements for stand age (>200 years) and minimum tree size (4-5 trees per acre exceeding 17-19 inches in diameter) recommended by Green et al. (1992).

### **Fisheries**

No fish are found in any of the waters contained in the exchange parcels. Westslope cutthroat trout (WCT) are present in South Fork Tenderfoot Creek downstream from the confluence of the unnamed tributary which crosses the National Forest System (NFS) exchange parcel in section 32. However, less than 10% of the habitat occupied by WCT in SF Tenderfoot Creek occurs below this confluence. No fish reside in Mongar Creek. Below the confluence of Mongar Creek, SF Tenderfoot Creek is heavily silted from road sediment and supports few fish. The South Fork joins main Tenderfoot Creek less than a quarter mile downstream, at which point its sediment load is absorbed into the greater discharge volume of the Tenderfoot. As noted in the Hydrology Report, stream reaches

in the NFS exchange parcels in the unnamed tributary and Mongar Creek were rated “At Risk” according to the Sheep Creek Range EIS, due to livestock grazing and other agricultural uses. The unnamed tributaries on the Taylor Hills parcel appear to be in proper functioning condition. Columbia spotted frogs and western toads have been found in similar riparian habitats in the Little Belts and may use any of the wetlands in the exchange parcels as well, although no breeding sites are known to occur there.

### **Water Rights, Wetlands, Floodplains**

**Water Rights:** One water right pertinent to the land exchange was found, 41J207111-00, owned by Zehntner brothers. It is a statement of claim for surface waters from Taylor Hills Creek in the NE ¼, NE ¼ Section 24. The purpose is stock use at the rate of 10 gallons/minute and total annual volume of 2 acre-feet.

**Wetlands:** Executive Order 11990 (May 24, 1977, 42 F.R. 26961) directs Federal agencies to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in acquiring, managing and disposing of Federal lands and facilities. Wetlands generally include swamps, marshes, bogs, sloughs, potholes, wet meadows and natural ponds.

The Taylor Hills tract contains wetlands. An unnamed tributary of Tenderfoot Creek begins in the large meadow of the tract and flows north to south in a wet meadow with riparian sedge, for and shrub cover. Within the property, willow and birch cover is fair. The property is grazed by livestock which has an impact on streambanks. A second unnamed tributary to Tenderfoot Creek begins from springs on the east edge of the Taylor Hills tract. This tributary also has fair riparian sedge, forb and shrub cover. Both tributaries appear to have functioning condition within the tract.

The Taylor Hills tract includes approximately 5.2 acres of wetlands (See Appendix A). The condition of the wetlands on the Taylor Hills tract based on riparian function is fair.

No wetlands were found on the Forest Service tracts except the narrow band immediately associated with the streams themselves.

**Floodplains:** Floodplains are defined as the lowland and relatively flat areas adjoining inland and coastal waters, including at a minimum, that area subject to a one percent or greater chance of flooding in any given year. Under Executive Order 11988, Federal agencies are directed to take action to reduce the risk of flood loss, minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains.

The Forest Hydrologist has determined that the Zehntner tract includes approximately 0.4 acres of floodplains. The condition of the floodplains on the Taylor Hills tract based on riparian function is fair.

The two Forest Service parcels have floodplains along Mongar Creek in the S ½ Section 30 and along an unnamed tributary to South Fork Tenderfoot Creek in NW ¼ Section 32 both in T14N, R5E. Based on lengths of streams, 100 year peak flows and floodplain widths the Forest Hydrologist has determined that there are approximately 2.1 acres of floodplains in these two parcels (See Appendix A).

Streams on both FS parcels were evaluated according to the Proper Functioning Condition Assessment process (USDI Bureau of Land Management 1998) for the Sheep Creek Range Analysis FEIS (2004). Both streams showed approximately 30 percent cumulative bank instability due to livestock grazing and the reaches were determined to be functioning at risk.

### **Cultural Resources**

The cultural resource inventory took place only on the NFS parcels identified to be exchanged out of Federal ownership. The inventory identified two sites, both linear irrigation ditches, the Mongar Ditch and the Rye Field Ditch. Both ditches were evaluated, both pass through multiple jurisdictions (private, State, Federal) along their lengths, both have had changes, updates and introduction of modern elements. Both sites were determined to be ineligible for listing on the National Register of Historic Places due to their lack of integrity.

Cultural resource inventory was not required on Taylor Hills Parcel Z1, identified for acquisition into Federal ownership. Homestead Entry Survey 185 includes several homestead structures, including a remnant cabin, barn, shop and implements. These structures are recognized as potentially having historic value, although no inventory or research has been required or conducted to date. Forest Service management intent would be to record the site and determine eligibility through the State Historic Preservation Office (SHPO) for listing on the National Register of Historic Places. If deemed eligible, the site would then be managed as an historic site.

### **Noxious Weeds**

No significant noxious weed infestations are known to occur within Parcels F1 and F2, nor were any observed within HES 185, although an indigenous level is always present due to introduction and infestation sources from motorized use on roads and trails (a primary introduction and infestation source), livestock presence, and normal agricultural activities.

### **Range and Allotment Management**

A sliver of the Tenderfoot Allotment, formerly permitted to Keith and Becky Ledger, extends into Parcel F1 on the south/southwest edge. It borders the Zehntner Special Use

Pasture permit fence. If Parcel F1 is conveyed to Zehnter, this sliver of Tenderfoot Allotment would then be on Zehnter private property. Federal regulations require the Forest Service to notify holders of term grazing permits two years in advance of any proposal including land exchanges, which could result in NFS lands being devoted to another public use which excludes livestock grazing. Allotment permit holders may waive this requirement in writing. The LCNF sent this letter of notification to Legers' on 4/21/04, asking for a waiver. They refused to sign the waiver; however the two year notification requirement expired in May 2006.

Parcel F2 is located within the Bald Hills Allotment which is issued to Zehnter and thus is not an issue.

HES 185 (Parcel Z1) is located within the Bald Hills Allotment held by Zehntner, with the HES 185 stock carrying capacity deleted from grazing fees charged for the Bald Hills Allotment. The management of this inholding has been released by Zehntner to the Forest Service for overall management under the Bald Hills Allotment Management Plan.

### **Special Use Permit Authorizations**

Special use permit KIN 0011 is authorized to Zehntner for a 0.5 miles of water transmission ditch, located on NFS system lands in Parcel F1, planned for disposal. Special use permit WSS 0022 is authorized to Zehntner for a fence line and pasture that includes segments of NFS lands included within Parcels F1 and F2, planned for disposal.

### **Timber Resources**

The initial cruise of sawtimber and sawtimber appraisal reports for the Federal Parcels and for HES 185 were conducted in July 2004 by the L&C NF timber staff. The appraisals determined the value of the timber based on standard Forest Service transaction evidence. These values will vary quarter by quarter. The appraisal did not include an estimate of costs to Zehntner to build 4.1 miles of log haul road into HES 185, but again simply the comparison appraisal values between public and private properties proposed for exchange.

Because appraisal values for comparison to 25% difference in value must be less than 1 year old, a revised sawtimber appraisal was conducted in December 2006 by the L&C NF Timber staff. This December 2006 appraisal accounted for a July 2006 wildfire into HES 185 that accounted for loss of approximately 3 acres of timber volume. The sawtimber values remained at less than 25% difference between public and private values. Federal parcels F1 and F2 were determined to contain 125 net timbered acres with a net sawlog volume of 2,529 ccf (cubic feet). HES (Parcel Z1) 185 was determined to contain 123 net timbered acres with a net sawlong volume of 3,038 ccf (cubic feet). This net acreage and volume took into account the July 2006 wild- fire that partial burned nearly 5 acres of timber land on HES 185, with a net loss of about 3 acres of timber land.

## **Chapter IV Environmental Consequences**

Chapter IV describes the direct, indirect and cumulative environmental consequences of the alternatives on the biological, physical, social and economic environment of those Federal lands and the private lands identified for exchange and reciprocal ROWs.

### **Reasonably Foreseeable Land Uses**

#### **Alternative 1 (Proposed Action)**

Under the Proposed Action, the Federal Parcels F1 and F2 would be conveyed to Zehntner. As stated in a February 11, 2005 letter to the Forest Service, Zehntner's intent is to use the land for agriculture, to graze cattle, and possibly harvest some of the mature and/or diseased timber. They would continue their ranching activities on Tenderfoot as in the past.

Timber harvest on these newly acquired private lands would be regulated by State laws for water quality, Streamside Management and Best Management Practices.

The private homestead HES 185 inholding (Parcel Z1) would become NFS lands, managed for Semi-primitive and dispersed recreation uses while maintaining roadless area values. Trails 344 and 351 continue to be managed as motorized trails open yearlong to trailbikes (but not 4x4s or ATVs). Use levels are expected to increase incrementally over the years.

The reciprocal road and trail ROWs exchanges would occur. The Travel Plan decision designated as non-motorized those portions of Roads 6424 and 6372 on NFS lands beyond the State lands in Section 30. Also, the trails on the north side of Tenderfoot Creek are non-motorized. However, Zehntner's reciprocal road ROW would allow for motor vehicle travel for their agricultural uses (haying, livestock management) on the roads and on a segment of Trail 342 which overlap onto NFS lands. The fall hunting season gate closure on Road 6424 by the Zehntner Ranch buildings would no longer be controlled by Zehntner, however the effective non-motorized closure point to public travel on Road 6424 may revert to this or a nearby point.

#### **Alternative 2 (No Action)**

In Alternative 2, Zehntners would renew their application to construct the timber haul road across NFS lands into the Taylor Hills homestead HES 185 for the purpose of private timber harvest.

The reasonably foreseeable scenario for Alternative 2 is the Forest Service would grant a conditioned authorization for construction of the logging road access on the preferred route. The new road route would exist into perpetuity and all reciprocal ROW proposed in Alternative 1 would be required of the Zehntner Ranch. Logging activities would occur on HES 185, and Trails 345 and 351 could be impacted by the logging activity.

### **Inventoried Roadless Area**

The effects of proposed actions on roadless area character are measured against the following characteristics:

- Natural Integrity, or the extent to which long-term ecological processes are intact and operating.
- Apparent Naturalness, meaning the environment looks natural to most people using the area.
- Opportunity for Solitude, the isolation from the sights, sounds and presence of others and human developments.
- Opportunity for Primitive Recreation Experience/Remoteness, including the opportunity to experience solitude, perception of being secluded, inaccessible and out of the way, closeness to nature, serenity and application of outdoor skills.
- Unique Features, which include unique geological, biological, ecological, cultural or scenic features which may be located in the area. There are no known unique features that would be affected under either alternative.
- Manageability and Boundaries, which relates to the ability of the Forest Service to manage the area to meet size criteria and the above 6 elements.

#### **Alternative 1 (Proposed Action)**

*Direct, Indirect and Cumulative Effects:* Potential impacts to roadless area character could shift under the Proposed Action. While timber harvest and potential road construction could occur on exchange Parcels F1 and F2, Parcel Z1 would be managed to retain a semi-primitive motorized class of dispersed recreation.

Parcels F1 and F2 are currently relatively inaccessible. Road construction, if conducted for private timber harvest access, would affect the present attributes of natural integrity, apparent naturalness and opportunities for solitude and primitive recreational experiences. Because of the proximity of these parcels to existing private lands, the sight of roads and other human influences is already apparent.

Placing Parcel Z1 in Federal ownership would not change the current conditions with regard to natural integrity, apparent naturalness or opportunities for solitude and primitive (or semi-primitive) recreational experiences. It would, however, ensure that additional impacts to these characteristics from potential road construction and private timber harvest would not occur.

Boundary management would be improved by consolidating private ownership and eliminating an isolated private inholding within the inventoried roadless area.

#### **Alternative 2 (No Action)**

***Direct, Indirect and Cumulative Effects:*** Logging road construction on NFS lands within the Tenderfoot-Deep Creek Inventoried Roadless Area and timber harvest on the private Parcel Z1 could likely occur. Also, with an access road into Parcel Z1, the potential for future developed uses increases.

Because of the steepness of the terrain on parcel Z1, road construction and logging has the potential to increase soil erosion and sedimentation levels. Effects to natural integrity include potential impacts to soil and water quality from erosion. Although the apparent naturalness of Parcel Z1 is currently affected by the existing motorized trail on steep terrain, the construction of additional road mileage and timber removal would further reduce scenic quality of the area.

Opportunity for solitude will be reduced by the new road construction access and the potential increase in human presence. Opportunity for primitive recreation experience on Trail 344 from the trailhead down to HES 185 would be impacted but would continue on adjoining NFS lands, however the natural settings would be greatly compromised.

Remoteness, or perception of being secluded, would be reduced on Trail 344 down to HES 185 along the new road construction, and by the harvest on adjoining private lands.

Boundary management would not change from present; slivers of NFS lands surrounded by private lands would remain a management challenge and private management actions on inholdings retain the potential for boundary management issues.

As previously mentioned, Parcels F1 and F2 are currently relatively inaccessible and would remain so under Alternative 2. Because of the proximity of these parcels to existing private lands, the sight of roads and other human influences is already apparent. Under Alternative 2, roadless characteristics of these parcels would not change from existing conditions.

## **Threatened, Endangered, and Sensitive Species**

### **Sensitive Plants**

#### **Alternative 1**

**Direct and Indirect Effects:** There is a potential that short-styled columbine occurs in Parcel F1. Implementation of the land exchange, however, would not impact short-styled columbine or any sensitive plant species.

**Cumulative Effects:** Proposed future activities on Parcel F1 may include timber harvest and road construction. The effects of timber harvest on short-styled columbine are essentially unknown, although most inventoried populations have been located in forest stands. The specific light requirements for this species is unknown, but from general observations the species appears to be most abundant in forest edges and open forest stands with partial shade, with declining abundance in dense shade or full sunlight. Therefore, clearcut and seed tree timber harvest are thought to be detrimental, as they result in a high level of forest floor disturbance and expose the populations to full or

nearly full sunlight (USDA 1995). Thinning, selection, and shelterwood harvest methods normally retain a substantial amount of shade from unharvested leave trees and result in minimal forest floor disturbance. Where these harvest treatments are applied they are expected to have little direct or indirect adverse effects on short-styled columbine populations or habitat. Post-harvest prescribed burning that consumes the duff layer would negatively impact columbine populations.

Timber harvest and road construction activities increase the risk of noxious weed establishment in Parcel F1. If noxious weeds establish and are left untreated, their populations can expand and displace native vegetation. Noxious weed establishment could directly remove columbine habitat and/or result in direct loss of short-styled columbine plants if establishment occurred near a columbine population.

### **Alternative 2**

**Direct and Indirect Effects:** No activities would occur on Forest Service Parcels F1 and F2 under this alternative. Potential short-styled columbine in Parcel F1, therefore, would not be impacted.

**Cumulative Effects:** Existing conifer stands in Parcel Z1 are likely to be harvested if the land exchange does not occur. Because no sensitive plant habitat occurs in Parcel Z1, there would be no effect to this resource. In order to access the private in-holding to accomplish harvest activities, however, approximately 4.5 miles of road would need to be constructed across National Forest System lands. A site-specific sensitive plant evaluation would be completed prior to approval of the road's location. Any sensitive plant population located along the proposed route would be documented and avoided. No impacts are anticipated with this management action.

Based on the above analysis, the following impact determinations have been given for each alternative.

<b>Sensitive Species</b>	<b>Alternative 1</b>	<b>Alternative 2</b>
short-styled columbine	MIH	NI
Northern wild-rye	NI	NI
Northern rattlesnake-plantain	NI	NI
Missoula phlox	NI	NI
Austin's knotweed	NI	NI
English sundew	NI	NI
linear-leaved sundew	NI	NI
Hall's rush	NI	NI
Barratt's willow	NI	NI
water bulrush	NI	NI



alpine meadowrue	NI	NI
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**NI** = No Impact

**MIH** = May impact individuals or habitat, but will not likely contribute to a trend towards Federal listing or loss of viability to the population or species.

**WIFV** = Will impact individuals or habitat with a consequence that the action may contribute to a trend towards Federal listing or cause a loss of viability to the population or species.

**BI** = Beneficial Impact

### **Terrestrial Wildlife**

Table 1 in the *Affected Environment* section of this report identified the Endangered Gray Wolf, Threatened Canada Lynx, and Rocky Mountain Elk (Management Indicator) as wildlife species that could potentially be impacted by the proposed action and/or for which further analysis was warranted. This section addresses the environmental consequences of implementing either proposed alternative on those species. As described in Table 1, project implementation would have no significant adverse impacts on remaining species for the reasons described in the table.

The Interdisciplinary Team for this project also identified the need to assess affects of implementation on Old Growth habitats, and that assessment is also included below.

The U.S. Fish and Wildlife Service (USFWS) provides a list of threatened, endangered, proposed and candidate species known or suspected to occur within the Jefferson Division of the Lewis and Clark National Forest; the USFWS last updated the list of T&E species on the Jefferson Division on Aug 8, 2007, and the only species on that list was the Endangered Gray Wolf. An assessment of exchange effects on Gray Wolves is included in this section to fulfill requirements of Section 7 of the Endangered Species Act to complete a Biological Assessment (BA) for listed species.

Although the USFWS did not list the Canada Lynx as a Threatened Species present in the Jefferson Division, the project area does contain lynx habitat that could potentially be impacted. As such, an assessment of potential effects was conducted and is included below.

### **Gray Wolf (E)**

**Direct Effects Common to Alt 1 & Alt 2:** Existing conifer stands in proposed exchange parcels F1 & F2 under alternative 1 and proposed exchange parcel Z2 under alternative 2 would likely be harvested. Under Alt 2, approximately 3.5 miles of new road would be constructed to access parcel Z2; a small amount of new roads would also be built to harvest timber in F1 and F2 under Alt 1. Under alternative, road construction and timber harvest activities would not be likely to have disturbance impacts on any individuals that may occur there during periods of activity because wolves are not known to be overly sensitive to such human disturbances.

**Indirect Effects Common to Alt 1 and Alt 2:** The Little Belt Mountain Range supports adequate habitat and a wild ungulate prey base (deer and elk) to sustain wolves. Timber harvest and road construction activities under both alternatives would likely have short term disturbance effects on big game, but would not likely impact big game population numbers in either the short or long term. Thus, impacts would likely be insignificant to the wolves primary prey base. Under Alt 2, approximately 3.5 miles of new road would be required to access parcel Z2; the area impacted is currently considered security habitat for elk during summer months (see elk effects below). Although this road would be closed to the general public, use of this road by private landowner(s) would likely impact secure elk habitat to some degree (depending on the degree of actual motorized use on the route and the time of year traveled), and would likely alter current elk use patterns within the influence zone of the new route. But, elk population numbers within the Tenderfoot Creek drainage would not likely be impacted and the wolf prey base would likely remain unchanged.

**Cumulative Effects Common to Alt 1 & Alt 2:** Most of the Tenderfoot Creek drainage has no roads, and has not been impacted by past vegetation management actions (including timber harvests). However, some private lands immediately adjacent to the proposed exchange parcel F1 has roads due to timber harvesting in the last 10 - 20 years. Routes used to access these parcels are generally closed to public access, and currently have little impact on wild ungulates from motorized vehicle disturbances. Impacts of these past harvest units have likely improved forage opportunities for wild ungulates, and benefits will continue until conifers again become re-established and out-compete forbs and grasses on the forest floor; hiding values have likely been compromised in some areas, but overall, past timber harvests on private lands have likely not had significant effects on over-all wild ungulate population numbers within the Tenderfoot drainage. Besides those private harvest actions described for parcels Z1, F1, and F2 under Alt 1 and Alt 2, no additional harvest actions (either private or federal actions) are known or planned for the immediate future.

Livestock grazing has occurred on both the private Z1 parcel and publicly owned F1 & F2 parcels for the past several years. Under either exchange alternative, livestock grazing would still occur. Under Alt 2, permitted animal unit months of grazing, length of the grazing season and intensity of use would remain unchanged, but a new grazing plan would be implemented under Alt 1. Regardless of the grazing plans utilized under either alternative, wolf depredations on livestock are possible if/when dispersing wolf individuals or packs come into contact with livestock. Depredations would likely result in lethal wolf control actions per guidelines outlined in *The Reintroduction of Gray Wolves to Yellowstone National Park and Central Idaho EIS* and provisions in Section 10 of the Endangered Species Act, which are the regulating documents for managing “experimental and non-essential” wolf populations.

Since wolves are almost entirely dependent on a wild ungulate prey base (elk and deer), potential effects of livestock grazing on big game populations is an important consideration. Although livestock grazing may be impacting forage availability within

some portions of the Tenderfoot Creek drainage, wild ungulate populations are currently considered to be healthy, and meet or exceed management objectives of the Montana Department of Fish, Wildlife and Parks in most hunting districts within the Little Belt Mountain Range.

In most instances, past and present recreation activities are considered of low intensity and short duration within the influence zone of the proposal, and likely have had minimal effect on normal wolf habits if they were or are present. However, recreational activities can increase wolf mortality risk since wolves could be intentionally or accidentally shoot, especially during hunting seasons. Current recreation activities and levels of activity would likely remain unchanged in future years regardless of which alternative were selected, and mortality risk levels would remain unchanged.

The activities described above (past/future timber harvests, livestock grazing, and past/future recreation activities) will occur regardless of which alternative is selected, and implementation of the either alternative would not contribute additional cumulative effects to wolves or wolf populations.

### **Statement of Findings for the Gray Wolf**

As described above, the Little Belt Mountain range is within the Yellowstone National Park experimental population area for wolves released in 1994. As such, wolves occurring within the Little Belts are managed as “experimental and non-essential” in accordance with Section 10 of the Endangered Species Act. This designation provides greater flexibility in the management of wolves and allows greater accommodation in land use activities.

In the final rule for reintroduction of wolves to Yellowstone National Park and Central Idaho, published in the Federal Register on November 22, 1994, the FWS concluded that the gray wolf reintroduction does not conflict with existing or anticipated federal agency actions or traditional public uses of National Park lands, wilderness areas, or surrounding lands (FR vol. 59, No. 224 p. 60252). Specifically, the FWS stated, “...there are no conflicts envisioned with any current or anticipated management actions of the Forest Service...”. The National Forests are beneficial to the reintroduction effort in that they form a natural buffer to private properties and are typically managed to produce wild animals that wolves could prey upon. The FWS finds the less restrictive Section 7 requirements associated with the non-essential designation do not pose a threat to the recovery efforts and continued existence of the gray wolf (FR vol. 59, No. 224, p. 60256).

Therefore, implementation of either exchange alternative, in conjunction with all known past, present, and future cumulative actions in the project area, is “**not likely to jeopardize**” the continued existence of the gray wolf in the Greater Yellowstone Ecosystem.

As a cooperating agency in the wolf reintroduction project, which includes the development of the Environmental Impact Statement for the Yellowstone reintroduction

action, the Forest Service is committed and obligated to implementation of the conservation measures outlined in the November 22, 1994 final rule. Under the rule, wolves occurring on National Forest system lands are designated as non-essential, experimental populations, and are treated as a proposed species. **As such, federal agencies are not required to confer with FWS** if analyses indicate that an action they “authorize, fund or carry out is not likely to jeopardize the continued existence” of the species.

### **Canada Lynx (T)**

**Effects Common to Both Alternatives:** Additional past, present, and future activities within LAU include hunting, hiking, wood and berry gathering, ATV and motor-bike riding, cross-country skiing, and snowmobile riding. However, lynx do not appear to be significantly affected by low intensity human disturbances, and these activities would not be expected to have direct negative effects on lynx or lynx habitat. Winter activities associated with snowmobile riding and cross-country skiing could indirectly affect lynx by increasing the risk of predation by other carnivores and competition with competing carnivores for the same prey base as a result of compacted snow trails during winter. There are approximately 200 miles of groomed snowmobile trails in the Little Belt Mountains, but only a few miles pass through LAU LB6 & 7. Although lynx may not be legally trapped in Montana, incidental losses may occur to trappers pursuing legal, fur-bearer trapping opportunities via legal snowmobile access routes in the affected LAUs.

**Direct & Indirect Effects Common to Alternative 1 (Proposed Action):** The FS would acquire private parcel Z1 under Alt 1. All 152 acres of Z1 are located within LAU LB6, and would add approximately 115 acres of conifer forest types suitable for travel cover to the LAU; the remaining 37 acres are openings that are currently considered unsuitable cover types for lynx (approximately 26 acres of open, dry and wet meadows and approximately 11 acres of open conifer forest that stand-replace burned in the 2006 Taylor Hills wildfire).

Under FS ownership, parcel Z1 would not be harvested and new access routes to the parcel would not be constructed. Thus, impacts associated with vegetation management actions would not be anticipated, and vegetation management standards/guidelines in the *Northern Rockies Lynx Management Direction* would not apply.

Z1 is located within the Bald Hills Grazing Allotment, and under FS ownership would be incorporated into the allotment; permitted livestock grazing on the exchange parcel would be managed per guidelines described in the Sheep Creek Range Management Plan. *Northern Rockies Lynx Management Direction* Guideline **GRAZ G1** stipulates that “grazing in fire and harvest created openings should be managed so that impacts do not prevent shrubs and trees from regenerating”. Per the Sheep Creek Range Analysis EIS (USFS, 2004), historically, cattle use of newly created openings resulting from timber harvest and/or wildfire has not been detrimental to tree or shrub development on the Lewis & Clark NF primarily because forest habitat types common to the Little Belt Mountains do not typically support grasses or shrubs preferred by grazing cattle. Nor do

these habitats support communities of tall shrubs most desirable as cover for snowshoe hares. Thus, it has not been necessary to exclude livestock from newly created openings through the use of fencing or permit clause adjustment. Therefore, no adverse impacts on lynx habitat in Z1 would be anticipated as a result of livestock grazing, and Guideline **GRAZ G1** would be met in Alt 1.

**Cumulative Effects Common to Alternative 1 (Proposed Action):** No specific cumulative effects common only to Alt 1 were identified.

**Direct & Indirect Effects Common to Alternative 2 (No Action):** No exchange would occur under this alternative, and Z1 would remain in private ownership. Private landowners could pursue access to the private Z1 parcel such that approximately 3.5 miles of new road would be built through LAU LB6 and a small portion of LAU LB7. The Z1 property would likely be harvested and potentially subdivided post-treatment. If regeneration harvest methods in Z1 were utilized, forage habitat within LB6 could slightly improve over existing conditions 10 years after treatment, and for approximately 40 years thereafter. Since the *Northern Rockies Lynx Management Direction* (USDA Forest Service 2007) only applies to FS managed lands, assessing management action impacts within the Z1 parcel in relation to standards and guidelines identified in the *Northern Rockies Lynx Management Direction* is not appropriate.

The 3.5 miles of new road construction within LB 6 & 7 would occur on FS managed lands, and would require that approximately 14 acres of existing FS conifer forest (travel habitat for lynx) be felled within the route right-of-way and maintained over time as a permanent opening. Because of the long linear nature of the road right of way opening created, travel habits for lynx would likely be unaffected. Human motorized uses of the new road could have indirect effects on lynx, however. Since this route would be constructed on FS lands, assessment of effects in relation to management standards and guidelines in the *Northern Rockies Lynx Management Direction (Ibid)* is appropriate. The following Standards and Guidelines are applicable to this project:

- 1) *Standard ALL S1 – New or expanded permanent development and vegetation management projects must maintain habitat connectivity in an LAU and/or linkage area.* The newly constructed road would be gated to restrict public motorized travel and only available to motorized uses by the private landowner(s) and occasional use by FS employees for administrative purposes. Use would likely be relatively light (except during short time periods during timber hauling activities by the private landowner related to timber harvest of parcel Z1). Lynx are not known to be overly sensitive to motorized uses on roads (especially light use as would occur on this route). Therefore, travel habits of the lynx would likely be insignificant, and habitat connectivity would be maintained.
- 2) *Guideline HU G7 – New permanent roads should not be built on ridge-tops and saddles, or in areas identified as important for lynx habitat connectivity. New permanent roads and trails should be situated away from forest stringers.* The new route would not be located on a ridgeline, nor would it cross ridgeline saddles. Most of the route is within the timber line; forest stringers along

meadow edges would not be impacted.

**Cumulative Effects Common to Alternative 2 (No Action):** No specific cumulative effects common only to Alt 2 were identified.

### **Statement of Findings for the Canada Lynx**

The analyses above of Direct and Indirect effects of implementing either exchange alternative did not identify any significant impacts to lynx or lynx habitat, and all applicable Standards and Guidelines outlined in the *Northern Rockies Lynx Management Direction* (USDA Forest Service 2007) would be met. Cumulative effects discussed above of actions and activities not associated with this exchange proposal have or will occur regardless of the proposed action, but implementation of either exchange alternative would not be expected to add cumulatively to those that have already occurred or are expected to occur in the future.

### **Sensitive Wildlife Species**

Direction to conserve sensitive species and their habitats is authorized by the National Forest Management Act. Sensitive species are administratively designated by the Regional Forester (FSM 2670.5), and are those species for which population viability is a concern. The most recent list of sensitive wildlife species designated by the R1 Regional Forester was used for this analysis (list dated October 28, 2004, and as revised on March 31, 2005). The Bald Eagle was removed from the Threatened & Endangered Species list by the USFWS and added to the R1 Sensitive Species list by the R1 Regional Forester on Aug 9, 2007. In addition, the Northern goshawk was removed from the R1 Sensitive Species list by the Regional Forester on July 17, 2007.

Table 3-2 in the Affected Environment of this report includes all sensitive species known or suspected of occurring on the Lewis and Clark NF and were screened for potential to be adversely affected by the proposed project. As indicated in the table, it is anticipated that selection of either alternative would have **no impact** on any sensitive wildlife species, and further, detailed analysis was unwarranted. **Appendix A** summarizes those sensitive species known or suspected on the Lewis and Clark NF and the finding of affects for each alternative.

### **Management Indicator Species (MIS)**

The National Forest Management Act and its implementing regulations (36 CFR 219.19) require that National Forest System lands provide for a diversity of plant and animal communities to meet overall multiple-use objectives. The Forest Plan developed forest-wide management standards to provide for diverse plant and animal communities while achieving multiple-use objectives across the Forest (pp. 2-23 to 2-73 of Forest Plan). Management Standards (pp. 2-30 to 2-37 of Forest Plan) provide guidance for management of general wildlife habitat coordination, indicator species, and species that

warrant special habitats (old growth, cavity habitat, and rare plants). Management indicator species (MIS) are used to monitor effects of management activities on viable populations of groups of similar species with the same or similar habitat requirements. These management indicator species groups include: species that are threatened, endangered or sensitive (TES); species that are hunted, fished or trapped; species of special interest; or species having special habitat needs. TES species identified for analysis in Table 1 (gray wolf and Canada lynx) were discussed in the sections above. There are a number of wildlife game species (hunted or trapped) native to the project area, and they were identified/discussed in Table 1. Elk are one of the most common hunted species in the project area, and since they also tend to be most sensitive to human disturbances, they were selected for further, more detailed analysis in the section below.

Special habitats identified in the Forest Plan include old growth. A brief discussion of the potential for old growth impacts are also discussed below.

### **Elk (MIS)**

**Direct and Indirect Effects Common to Alternative 1 (Proposed Action):** This alternative would exchange FS parcels F1 and F2 for private parcel Z1. Under private ownership, some new road construction and timber harvest within parcels F1 and F2 would be likely; depending on density of residual timber stands remaining post harvest, forage values for elk (and other big game as well) could be enhanced. However, timber harvest could also result in the loss of hiding cover value if stands are heavily thinned. Habitat effectiveness for elk could also be impacted if parcels F1 and F2 were subdivided and new residences constructed on subdivided parcels. Under FS ownership, vegetation treatments within parcel Z1 would be unlikely under this alternative, and forage/hiding values for elk (and other native wildlife species as well) would remain unchanged.

None of the parcels (F1, F2, or Z1) are within mapped security areas since all contain existing motorized roads or trails. Under this alternative, motorized public access on existing routes would remain unchanged regardless of ownership changes, and existing amounts and locations of security habitat would also remain unchanged. Since both parties (FS and Zehntner Brothers LLC Ranch) would still allow hunting season access, hunting pressure changes would also likely remain unchanged.

**Direct and Indirect Effects Common to Alternative 2 (No Action):** Under this alternative, no exchange of parcels would occur. However, approximately 3.5 miles of new road would likely be constructed through HD 413 to provide access to private parcel Z1. Following road construction, timber within parcel Z1 would likely be harvested under this alternative, and forage values for elk (and other big game as well) could be enhanced, depending on density of residual timber stands remaining post harvest. However, timber harvest could also result in the loss of hiding cover value if stands were heavily thinned. Habitat effectiveness for elk could also be impacted if parcel Z1 were subdivided and new residences constructed on subdivided parcels.

The proposed new construction route would pass through an existing 400 acre elk security block (see **Exhibit WL2**). Although this route would likely be closed to public access, traffic from private vehicles during both hunting and non-hunting season time periods could be significant enough to cause elk to seek other security habitats immediately adjacent. The loss of 400 acres of security habitat in HD 413 represents a reduction of approximately 1% of existing security habitat within the hunting district to 25% and 30% security during bow season and rifle season respectively.

New road construction and vegetation treatments within FS parcels FS 1 and FS 2 would be unlikely under this alternative, and forage/hiding values for elk (and other native wildlife species as well) would remain unchanged in these parcels.

**Cumulative Effects Common to Alternative 1 and Alternative 2:** Much of the lower and middle reaches of Tenderfoot Creek drainage is unroaded, and has not been impacted by past vegetation management actions (including timber harvests). However, some private lands immediately adjacent to exchange parcel F1 have been roaded and selectively logged within the past 10 - 20 years. Routes used to access these parcels are generally closed to public access, and currently have little impact on wild ungulates from motorized vehicle disturbances. Impacts of these past harvest units have likely improved forage opportunities for wild ungulates, and benefits will continue until conifers again become re-established and out-compete forbs and grasses on the forest floor; hiding values have likely been compromised in some areas, but overall, past timber harvests on private lands have likely not had significant effects on over-all wild ungulate population numbers within the Tenderfoot drainage. Besides those private harvest actions described for parcels Z1, F1, and F2 under Alt 1 and Alt 2, no additional harvest actions (either private or federal actions) are known or planned for the immediate future.

All three exchange parcels are within federal and private grazing allotments, and livestock grazing has occurred on both the private Z1 parcel and publicly owned F1 & F2 parcels for the past several years. Under either exchange alternative, livestock grazing would still occur. Under Alt 2, permitted animal unit months of grazing, length of the grazing season and intensity of use would remain unchanged, but a new grazing plan would be implemented under Alt 1. Regardless of the grazing plans utilized under either alternative, grazing impacts on wild ungulate habitats in the project area will continue as long as grazing allotments remain active. Although livestock grazing may be impacting forage availability within some portions of the Tenderfoot Creek drainage, wild ungulate populations are currently considered to be healthy, and meet or exceed management objectives of the Montana Department of Fish, Wildlife and Parks in most hunting districts within the Little Belt Mountain Range.

Current recreation activities include hiking, horse-back riding, motor-bike/ATV riding and hunting, and these activities would likely continue into future years. However, where these activities occur and what types of motorized uses can occur there, will likely change in the near future regardless of which exchange alternative were selected. Specifically, a Record of Decision to implement new travel restrictions on FS lands within the Jefferson Division of the Lewis & Clark (Little Belt, Castle and North Crazy



mountain ranges) was signed in August of 2007 by the Forest Supervisor. The decision would restrict motorized uses (yearlong) on those portions of trails 342 and 345 leading to the Zehntner Ranch adjacent to the F1 and F2 exchange parcels. Motorized uses and types of use would not change on existing trails accessing exchange parcel Z1. Reductions in motorized uses would likely have beneficial effects on elk habitat effectiveness in the vicinity of the Zehntner Ranch specifically and the Tenderfoot in general. Several additional trails in HD 413 and 416 (hunting districts where the proposed exchange project is located) would also be restricted to motorized uses; these restrictions would be expected to significantly increase elk security during hunting seasons and improve habitat effectiveness during summer months.

The activities described above (past/future timber harvests, livestock grazing, and past/future recreation activities) will occur regardless of which exchange is selected, and implementation of either alternative would not contribute significant additional cumulative effects to elk populations and/or elk habitats beyond those that already exist.

### **Old Growth**

**Direct and Indirect Effects Common to Alternative 1 (Proposed Action):** This alternative would exchange FS parcel F1 and F2 to private ownership, and would likely be harvested in future years. As described above, these parcels do not contain sufficient OG characteristics to be considered OG, and their exchange and future harvest would not likely impact any OG dependent species. Parcel Z1 would be exchanged to the FS, but would not likely be selected for OG retention due to a lack OG character.

**Direct and Indirect Effects Common to Alternative 2 (No Action):** No parcel exchanges would occur under this alternative. FS parcels F1 and F2 would not likely be selected for OG retention due to a lack OG character; they could be selected for retention as replacement OG, however, if a wildfire stand replace burned existing OG stands within the compartment in future years. Trees within private parcel Z1 would likely be harvested; although stands within this parcel are not now considered OG, their value as future OG would be reduced if harvested.

**Cumulative Effects Common to Alternative 1 and 2:** Few past vegetation management actions have occurred on FS lands in any of the affected timber compartments (TC793, TC 783 or TC785), and no actions are planned in the near future. Thus, past and present vegetation management actions have not impacted OG stand character or OG dependent species, and adverse impacts would not be anticipated in the near future.

Past timber harvests have occurred on some private lands immediately adjacent to parcels F1 and F2 within the past 10-20 years. Past treatments vary from shelterwood type regeneration harvests to thinning. It is unknown if these stands contained sufficient OG character pre-treatment to be considered OG for dependent species, but their ability to acquire sufficient characteristics in the future would not occur for 100 years or more. There are other private lands within TC793 that have not been treated; it is unknown if

these stands provide OG habitat and unknown if plans exist to treat them in the near future. Regardless, no past, present, or reasonably foreseeable actions (including the proposed action) are known that would result in significant adverse cumulative effects on OG habitats.

## **Fisheries**

### **Alternative 1 (Proposed Action)**

If the land exchange was completed, the condition of riparian areas within the NFS exchange parcels would likely remain unchanged because current livestock grazing use would continue. Timber harvest may also occur on these parcels but would be regulated by State laws (water quality laws, Streamside Management Zone law and BMP requirements). It is unrealistic to expect stream channel conditions to recover or improve under private ownership. However, the stream segments contained in the NFS exchange parcels constitute a small percentage of their respective watersheds and have only a minor influence on overall health of each subwatershed. Even under strict preservation management, these segments would not be able to offset the influence of the predominant upstream and downstream land uses. Consequently, downstream fish habitats would not be significantly affected by a change in ownership of the NFS parcels. The viability of the WCT population of SF Tenderfoot Creek would not be threatened.

Conversion of the Taylor Hills parcel to National Forest System would preclude most types of commercial logging that occur on private lands, and would also preclude potential residential development. Forest Service management of recreation and vegetation would be guided by the need to protect the stream channels and wetlands contained in the Taylor Hills parcel in order to maintain high quality habitats for wildlife and downstream fisheries. Therefore, completion of the land exchange would have an overall net beneficial effect on fish and amphibian populations in the Tenderfoot Creek basin.

### **Alternative 2 (No Action)**

Under this alternative, no land exchange would occur, and the Taylor Hills parcel would most likely be further developed (e.g., roaded, logged, sold or subdivided for residential development). Ground disturbances associated with this development would have some unavoidable negative effects on local stream channels, wetlands and riparian habitats (e.g., increased sedimentation, habitat fragmentation, etc.), which could also adversely affect downstream fish habitat in Tenderfoot Creek.

With no land exchange, stream channels on the NFS parcels would likely remain in their current condition with continued livestock grazing. No significant recovery is expected due to difficulties of managing grazing on small parcels of land in areas of intermingled ownership.

### **Cumulative Effects**

Past, present and reasonably foreseeable activities that were considered in determining the environmental effects for aquatic resources include timber harvest, grazing, road

construction and maintenance, vehicle travel, and recreational use on federal and non-federal lands in the vicinity of the exchange parcels. (Fire suppression activities are unlikely to differ significantly between the two alternatives.) Although it is not possible to quantify the effects of all of these activities on aquatic habitats in this portion of the Tenderfoot basin, they do act cumulatively to influence watershed conditions. Predicting how these activities may or may not differ with a change in ownership of the exchange parcels is integral to evaluating the probable effects of the land exchange.

The effect of livestock grazing on riparian habitats in the exchange parcels is unlikely to change significantly under either alternative because existing patterns of grazing use will largely continue, and relatively small segments of perennial streams are affected by it. Likewise, only minor change in recreational use of the exchange parcels is expected, except perhaps changes in motorized use implemented under a new Travel Plan. However, the effect of these recreation changes on streams and fish habitat will not differ significantly between the land exchange alternatives.

The most important difference between the alternatives is the high probability of some additional road construction, logging or other development on whichever exchange parcels are privately owned. Taking this into consideration, the greater benefit to aquatic habitat that results from completing the land exchange and avoiding potential adverse effects to streams and wetlands in the Taylor Hills parcel becomes obvious.

### **Water Rights, Wetlands, Floodplains**

**Water Rights:** under **Alternative 1 (Proposed Action)**, the Zehntner water right within HES 185 (41J207111-00) for surface waters from Taylor Hills Creek for stock would be transferred to the Forest Service with the land exchange.

Under **Alternative 2 (No Action)**, the Zehntner water right within HES 185 (41J207111-00) for surface waters from Taylor Hills Creek for stock would be retained by Zehntner Ranch.

**Wetlands:** Under the **Proposed Action**, the Forest Service would obtain wetlands that are valuable for maintaining riparian function in the headwaters of Tenderfoot Creek. HES 185 includes approximately 5.2 acres of wetlands along two tributaries that are in fair condition based on riparian function, that would become NFS lands. The tributary in the large meadow is grazed by livestock which has an impact on streambanks. Livestock grazing and streambank impacts would likely continue under Alternative 2 (No Action).

No wetlands were found on the Forest Service tracts except the narrow band immediately associated with the streams themselves.

Under **Alternative 2**, the approximately 5.2 acres of wetlands in HES 185 would remain in private ownership, with continued livestock grazing. Also, approximately 3.4 miles of new access road would be constructed, crossing the upper reaches of Taylor Creek and

another unnamed tributary. These crossing would directly impact the water quality of these streams. Also ground based timber harvest would occur on HES 185, likely causing soil erosion and sedimentation that would impact the wetlands and the streams within HES 185.

No wetlands were found on the Forest Service tracts except the narrow band immediately associated with the streams themselves, thus no net gain of wetlands would occur. The opportunity would be lost to retain valuable wetlands in HES 185 that serve for maintenance of riparian function in the headwaters of Tenderfoot Creek, which now will be impacted by logging road construction into HES 185, and ground based logging within HES 185.

**Floodplains:** Under **Alternative 1**, HES 185 includes approximately 0.4 acres of floodplains along two tributaries that are in fair condition based on riparian function, which would become NFS lands. Acquisition would acquire valuable floodplains for maintaining riparian function in the headwaters of Tenderfoot Creek.

The two Forest Service parcels include approximately 2.1 acres of floodplains along Mongar Creek and along the east reach tributary to South Fork tenderfoot Creek. Both streams show approximately 30 percent cumulative bank instability due to livestock grazing, and were determined to be functioning at risk. A 2/11/2005 letter from Zehntner indicated these parcels would continue to be grazed by livestock, and some timber harvest of mature and diseased trees would occur. Ground based harvesting would likely create some erosion and sedimentation that would impact both streams. Little recovery of the streams would be expected under either alternative.

Under **Alternative 2**, the 0.4 acres of floodplains in HES 185 would remain in private ownership, and continued livestock grazing would occur under either alternative. .

The 2.1 acres of floodplains in the two Forest Service parcels would remain NFS lands, with continued livestock grazing under either alternative. Little recovery of the stream reaches functioning at risk would be anticipated.

## **Cultural Resources**

### **Alternative 1 (Proposed Action)**

In January 2005 the L&C NF submitted cultural resources documentation to the State Historic Preservation Officer (SHPO) recommending a finding of “No Historic Properties affected” for Parcels F1 and F2. SHPO replied and concurred with this recommendation in February 2005.

Cultural resource inventory were not required of HES 185 identified for acquisition into Federal ownership. Several potentially historic structures are located on HES 185, and

Forest Service management intent would be to record the site and determine eligibility through SHPO for listing on the National Register of Historic Places. If deemed eligible, the site would then be managed as an historic site.

### **Alternative 2 (No Action)**

No change and no impact to cultural resources on Parcels F1 and F2; the Forest Service would continue to manage these parcels and the non-eligible features locate within them.

No change and no impact to cultural resources on HES 185; the potentially historic structures located on this parcel would remain in private ownership.

### **Noxious Weeds**

#### **Alternative 1 (Proposed Action)**

**Direct and Indirect Effects:** Parcels F1 and F2 would become Zehntner responsibility for weed management. They have indicated some timber harvest will occur, where they would be responsible under State Best Management Practices for weed control practices.

The acquired HES 185 and road and trail ROWs to the Forest Service will require added annual Forest Service weed monitoring and treatment along these ROWs, as time and funds allow.

#### **Alternative 2 (No Action)**

**Direct and Indirect Effects:** Parcels F1 and F2 would remain NFS lands and the Forest would retain responsibility for weed management. The Tenderfoot Creek junction roads and trails ROW would be acquired by the Forest Service as reciprocal ROW in return for the Taylor Hills access logging road, and will require added annual monitoring and treatment of the newly acquired ROWs, as time and funds allow.

Zehntner would be approved to construct a 3.4 mile timber haul road into HES 185, and they would harvest approximately 123 timbered acres on HES 185. Logging traffic would inevitably bring in added noxious weed infestation along the access road and into the harvest areas. Harvest related weed treatment would be Zehntners' responsibility, however upon completion of harvest and log haul, required Best Management Practices, and restrictions on use of the logging road, the Forest Service would need monitor and treat the trails and impacted areas outside of HES 185 as time and funds allow. Some level of added infestation would be expected along motorized Trails 344 and 351 radiating out of HES 185 to the north, east and south, as well as incident livestock weed seed transfer onto NFS lands in the adjoining Bald Hills range allotment.

## **Range and Allotment Management**

### **Alternative 1 (Proposed Action)**

**Direct and Indirect Effects:** Parcel F1 would become Zehntner property, and the sliver of Tenderfoot Allotment would then be on Zehntner's private property. Since the former Tenderfoot Allotment holder has vacated, there is no immediate issue. If the Tenderfoot Allotment is reassigned in the future, the new holder will need negotiate with Zehntner whether to lease the allotment segment in F1, or build new allotment boundary fence on-line in order to avoid the Zehntner property in Section 30.

Parcel F2 is located within the Bald Hills Allotment, authorized to Zehntner. The grazing capacity and fees billing for this allotment will be reduced by the F2 acreage, otherwise there is no issue or concern.

HES 185 would be acquired by the Forest Service and would remain within the Bald Hills Allotment; the grazing capacity of HES 185 will no longer be excluded from the fees billing. Cattle will continue to graze on the HES 185 parcel.

### **Alternative 2 (No Action)**

**Direct and Indirect Effects:** There will be no change in management. For F1, the vacated Tenderfoot Allotment fence will remain in place, and if the Allotment is authorized to a new holder in the future, the boundary presently in effect will remain. F2 will continue to be managed as part of the Bald Hills Allotment authorized to Zehntner.

HES 185 will remain within the Bald Hills Allotment held by Zehntner, the timber harvest operation will eventually increase the livestock grazing capacity of HES 185, and that carrying capacity will continue to be deleted from fees charged. The Forest Service will retained waived management for all of the Bald Hills Allotment.

## **Special Use Permit authorizations**

### **Alternative 1 (Proposed Action)**

**Direct and Indirect Effects:** Special Use permit KIN 0011 to Zehntner including an approximately 750 foot water irrigation line in Section 30, Parcel F1, will be amended to exclude the 750 foot line.

Special Use permit WSS 0022 to Zehntner including a fence line and pasture in F1 will be amended to reduce fence mileage by approximately 0.3 miles and establish a minor reduction in carrying capacity.

There are no Special Use authorizations affecting HES 185.

**Alternative 2 (No Action)**

**Direct and Indirect Effects:** The existing Special Use authorizations will not change.

There are no Special Use authorizations affecting HES 185.

**Net Differences in Timber Values****Alternative 1 (Proposed Action)**

**Direct and Indirect Effects:** Sawtimber values are one part of the entire land value appraisal process, which must verify that overall values of the proposed exchange properties are within 25% maximum value difference allowed by law

HES 185 sawtimber value was estimated at \$176,994 and the Federal Parcels sawtimber value estimated at \$200,246. Higher value for the Forest Service parcels was explained by the shorter haul distance to sawmill at Townsend, Montana, no road maintenance charges since the timber haul would occur on county roads, and these parcels had a higher percentage of Douglas fir which has higher value than lodgepole pine.

**Alternative 2 (No Action)**

**Direct and Indirect Effects:** There would be no land exchange and thus no concerns of valuation differences.

## **AGENCIES AND PERSONS CONSULTED**

The Forest Service consulted the following individuals, federal, State and local agencies, tribes and non-Forest Service personnel during the development of this environmental assessment:

### Interdisciplinary Team Members:

Dave Wanderaas, Project Planning Leader  
Alan Tschida, Lands Specialist  
Tim Benedict, former White Sulphur Springs District Ranger  
Kayleen Monson, former District Lands Specialist  
Tanya Murphy; Forest Silviculturist  
John Hamann, Forest Soil Scientist  
Kelly Keim, District Archaeologist  
Gary Hanvey, District Wildlife Biologist  
Steve Martin, Forest Timber Management Officer  
Becky Sitch, Land Surveyor  
Kathleen Lowry, Appraiser  
Robin Strathy, Planning Staff Officer, Minerals Specialist

### Federal, State, and Local Agencies

Meagher County Commissioners  
Montana Department of Fish, Wildlife, and Parks  
Montana Congressional Delegation  
State Clearinghouse  
Tribal governments

### **The contact person is:**

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**Appendix A.**

**NORTHERN REGION  
SENSITIVE SPECIES BIOLOGICAL EVALUATION  
SUMMARY OF CONCLUSION OF EFFECTS**

**Project Name: Taylor Hills Land Exchange**

<b>SPECIES</b>	<b>ALT 1 Proposed Action</b>	<b>ALT2 No Action</b>	<b>ALT 3</b>	<b>ALT 4</b>	<b>ALT 5</b>	<b>ALT 6</b>
1. Bald Eagle	NI	NI				
2. Peregrine Falcon	NI	NI				
3. Sage Grouse	NI	NI				
4. Blackbacked Woodpecker	NI	NI				
5. Flammulated Owl	NI	NI				
6. T.Big-Eared Bat	NI	NI				
7. Wolverine	NI	NI				
8. Harlequin Duck	NI	NI				
9. Fisher	NI	NI				
10. N.Bog Lemming	NI	NI				

Prepared by: Gary Hanvey \_\_\_\_\_ Date: 8/22/07 \_\_\_\_\_

Approved by: /S/GARY HANVEY  
Project Wildlife Biologist

**NI** = No Impact

**MIIH** = May Impact Individuals or Habitat, but Will Not Likely Contribute To a Trend Towards Federal Listing or Cause A Loss of Viability to the Population or Species

**WIFV\*** = Will Impact Individuals or Habitat with a Consequence that the Action may Contribute to a Trend Towards Federal Listing or Cause a Loss of Viability to the Population or Species

**BI** = Beneficial Impact

**\*Trigger for a Significant Action**

Form 2 (R-1-2670-95)

## Appendix B

### Taylor Hills Floodplain and Wetlands Analysis

This is an evaluation of the proposed land exchange of approximately 151.5 acres of non-Federal land known as Taylor Hills homestead (portions of Sections 13 and 24 T14N, R5E and Sections 18 and 19 T14N, R6E) in the Tenderfoot drainage for approximately 158.8 acres of federal lands (S1/2 Section 30 and NW ¼ Section 32, T14N, R5E) in the South Fork of Tenderfoot drainage for wetland and floodplain effects. This evaluation is required by FSM 2527 and is intended to be an appendix to the environmental assessment of the proposed action.

1. Findings. There is a net gain to the United States of about 5.2 acres of seasonal wetlands and a net loss of approximately 1.7 acres (See table below:  $0.8 + 1.2 - 0.3$ ) of steam floodplains from the proposed exchange. No hazards to life or property are known to exist in the wetland or floodplain areas involved. Floodplains are common and wetlands are not uncommon within both watersheds.
2. Methodology. Review of topographic maps at 1:24,000 scale and color aerial photographs at approximately 1:16,000 scale was made. Streams within the appropriate areas were noted and floodplain widths based on peak flows and valley bottom widths assigned to them for the 100-year floodplain. Wet areas were noted directly on the color photographs. Properties were visited in the ground and evaluated in 2004 and 2005.
3. Information search. Based on review of District and Supervisor Office files no previous floodplain mapping was found for the project. Streams on the FS parcels were evaluated according to the Proper Functioning Condition Assessment process (USDI Bureau of Land Management 1998) for the Sheep Creek Range Analysis FEIS (2004) between 1996 and 2002. The unnamed tributary to South Fork Tenderfoot Creek in NW ¼ Section 32, T14N, R5E was found to have a Rosgen channel type of F5b, there was 30 percent cumulative bank instability due to livestock grazing and the reach was determined to be functioning at risk. The reach of Monger Creek on FS lands in SW ¼ Section 30, T14N, R5E has a Rosgen channel type of A4, had 32 percent cumulative bank instability due to livestock grazing and the reach was determined to also be functioning at risk.
4. Hydrologic Evaluation. The unnamed tributary to South Fork Tenderfoot Creek in NW ¼ Section 32 drains approximately 1.4 square miles. The 100 year peak flow of this stream in NW ¼ Section 32 is estimated to be 245 cfs (Omang 1992) which would inundate a floodplain generally 40-50 feet wide based on valley bottom width

Monger Creek in SW ¼ Section 30 drains approximately 1.7 square miles. The 100 year peak flow of this stream in SW ¼ Section 32 is estimated to be 627 cfs

(Omang 1992) which would inundate a floodplain approximately 50-70 feet wide, again based on valley bottom width.

The unnamed tributaries to Tenderfoot Creek in NE ¼ Section 24, T14N, R5E and NW ¼ Section 19, T 14N, R 6E (Zehntner, Taylor Hills homestead lands) are first order tributaries with drainage areas of less than one mile and are thought to flow year long. These drainages have been impacted by livestock grazing. Channel conditions are fair.

Normal peak flows occur from snowmelt runoff in May or June, while the larger peak flows result from heavy rainfall on streams already swollen from snowmelt.

5. Floodplain Evaluation. The floodplain on the unnamed tributary to South Fork Tenderfoot Creek in NW ¼ Section 32 is estimated to be 50 feet based on peak flows and valley bottom width.

The 100-year floodplain on Monger Creek in SW ¼ Section 30 is about 60 feet wide based on peak flows and valley bottom width and is well timbered.

The 100-year floodplain on the first order tributaries to Tenderfoot Creek (Zehntner lands) is estimated to be less than 15 feet wide.

There are no critical facilities located on land under consideration or downstream of them.

On-site values are generally those associated with wildlife habitat, recreation and the natural functioning of these watersheds to provide water for domestic livestock, wildlife and irrigation downstream.

Portions of the drainage areas on the FS parcels have moderate or greater natural erosion rates based on land type ratings. Sediment yields and water turbidity are both fairly high for these drainages. The streams on the FS parcels are not currently supporting fish. The first order streams on the Zehntner parcel are also not thought to be supporting fish.

There are about 5.2 acres of wetlands on the non-federal lands, in NE ¼ Section 24 and NW ¼ Section 19. The wetlands primarily support wet sedges, forbs willows and alder.

No wetlands are known on the Forest Service parcels (other than the narrow strips immediately associated with the streams) but they do aid in support of wildlife, including elk and deer.

The table below shows the amount of wetland acres or stream miles in each parcel of land:

<b>Parcel</b>	<b>Wetland Acres</b>	<b>Feet of Sreams (Acres of Floodplains)</b>
FS lands S1/2 Section 30, T14N, R5E	0	600 feet of Monger Ck (approximately 0.8 acres of floodplains)
FS lands NW ¼ Section 32, T14N, R5E	0	1100 feet of unnamed trib to S. Fk. Tenderfoot Ck (approximately 1.3 acres of floodplains)
Zehntner lands SE ¼ Section 13 and NE ¼ Section 24, T14N, R5E and SW ¼ Section 18 and NW ¼ Section 19, T14N, R6E	Approximately 5.2	1100 feet of unnamed first order tribs to Tenderfoot Ck. (approximately 0.4 acres of floodplains)

From my knowledge and evaluation of this area, the proposed land exchange is consistent with Executive Orders 11988 and 11990 and implementing regulations and Forest Service Manual direction.

*/s/ John Hamman*

John S. Hamann  
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Lewis and Clark National Forest  
March 24, 2006