

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.

Sensitive Species	Alternative 1	Alternative 2
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.