

B-continued

The DEIS needs to clearly provide an estimate of the reduction of carrying capacity in forest and shrubland songbirds that will result from the proposed actions. This is the only way the public can understand the environmental impacts of agency management actions, in order to meet the requirements of the NEPA. The DEIS also needs to identify what the conservation strategy is for migratory songbirds, as this is not clear in the DEIS. Given that all actions will reduce habitat for some migratory species, and will not benefit any of them, there is a concern that this is the standard practice across the Forest, and that as a result, carrying capacity of migratory birds has been progressively declining over many years due to management practices of burning and logging.

Regards,



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## 6/5/13 Johnson Garrity Letter

Comment #	Response	Topic
1	The environmental impact statement prepared included most of the information prepared by the interdisciplinary team specialists in response to previous public involvement regarding disclosure of project analysis information in the environmental documents completed on the Helena National Forest. Electronic formatted documents were available to allow documents to be easily searched for specific items of interest.	NEPA
2A	The 'current best science' noted in the comment was not identified or included for review or consideration. Aspen was discussed under the vegetation section in the DEIS (pages 118-158), with anticipated effects summarized by alternative (pages 156-158). In addition, wildlife species associated with aspen types were discussed in the DEIS	Silviculture
2B	Stands identified for treatment have varying degrees of conifer encroachment, which is documented in the stand diagnosis and stand exam data.	Silviculture
2C	A project design feature for protecting aspen is included: Promote and protect existing aspen as needed during implementation. The DEIS discussed the presence of aspen at page 118: "In general, we can characterize aspen in proposed units and the project area as: (1) small clones, (2) heavily competing with to suppressed by conifers, and (3) a minor stand component (with a few exceptions)." The DEIS analysis considered the effects of livestock grazing on aspen and disclosed the anticipated effects pertaining to aspen at pages 132, 139-140, 153, and 156-158.	Silviculture
3A	The Forest is in the process of revising the land and resource management plan. Forest-wide standards for elk habitat effectiveness and elk security will be evaluated with that analysis. The draft Record of Decision for the Stonewall Vegetation Project addresses the site specific proposed amendment items related to this analysis. Adjustments in treatment timing were made and the elk analysis in the wildlife section of the FEIS has been updated to incorporate updated information.	Wildlife – FP amend elk
3B	See response to 3A pertaining to forest-wide standards. The elk analysis in wildlife section of the FEIS has been updated to incorporate additional information, including bull/cow ratios and consistency with elk population objectives in the State Elk Plan (MFWP 2005).	Wildlife – FP amend elk
3C	The draft Record of Decision for the Stonewall Vegetation Project addresses the site specific proposed amendment items related to this analysis. Adjustments in treatment timing were made and the elk analysis in the wildlife section of the FEIS has been updated to incorporate updated information, including changes in open road density and elk security during implementation. Anticipated levels of elk security habitat would be consistent with levels of elk security described in the Blackfoot travel plan.	Wildlife – FP amend elk

Comment #	Response	Topic
4A	The elk analysis has been updated in the wildlife section of the FEIS. See response to comments 3a through 3c and 4E for additional information updated in the FEIS.	Wildlife –elk
4B	The elk analysis has been updated in the wildlife section of the FEIS. Updated elk analysis is based on field surveys and herd unit information provided by the Montana Fish, Wildlife and Parks (MFWP 2005) elk management plan, as well as by more recent assessment of herd conditions (Kolbe 2012b).	Wildlife –elk
4C	The elk analysis in the wildlife section of the FEIS has been updated to incorporate updated information, including elk vulnerability.	Wildlife –elk
4D	See response to comment 3C. The elk analysis has been updated in the wildlife section of the FEIS. An updated elk security map is included in the FEIS.	Wildlife –elk
4E	The elk analysis has been updated in wildlife section of the FEIS, including habitat effectiveness discussions.	Wildlife –elk
4F	The elk analysis has been updated in wildlife section of the FEIS, including discussions of hiding and thermal cover. The draft Record of Decision for the Stonewall Vegetation Project addresses the site specific proposed amendment items related to this analysis.	Wildlife –elk
4G	Effects to mule deer and changes in habitat are discussed in the mule deer portion of the wildlife section of the FEIS.	Wildlife –mule deer
4H	The elk analysis in the wildlife section of the FEIS notes: Burning in shrub and grasslands has also been shown to increase both production and nutritional quality that benefit elk (Van Dyke and Darragh 2007) and low severity fire generally has the greatest benefit to elk when a mosaic of burned and unburned lands is available (USDA Forest Service 2011b, Long et al. 2008a). Burning is proposed to reduce encroaching conifer, to promote vigor of decadent sagebrush and stimulate reproduction of young sage. The value of sagebrush to wildlife was recognized and project design features are in place that will limit burning within sagebrush and ensure that sagebrush would be maintained on affected sites in the short and long-term. The compliance with Forest Plan Standard 8 is discussed near the end of the mule deer analysis in the wildlife section of the FEIS.	Wildlife –elk/deer
4I	The elk and deer analyses have been updated in the wildlife section of the FEIS. Forage availability for elk is variable across the project area. Due to the lack of disturbance, remote wilderness and roadless lands don't contain vegetative conditions that are conducive to producing abundant forage (MFWP 2005). Year-round forage species that would be expected to increase include shrubs such as <i>ceanothus</i> (Crotteau et al. 2012), Rocky Mountain maple, and serviceberry (Lentile et al. 2007).	Wildlife –elk /deer

Comment #	Response	Topic
	(There is no comment # 5)	
6A	The Stonewall project complies with the 2001 Roadless Area Conservation Rule (36 CFR 294.13(b)(1)(ii), and 36 CFR 294.13(b)(2)), as described in the DEIS, CH 3 Inventoried Roadless Areas, Compliance with Forest Plan & Other Relevant Laws, Regulations, Policies and Plans on page 602.	Inventoried Roadless Areas - IRA
6B	See response to comment 6A. The potential effects to roadless resources from the proposed action and alternatives were analyzed and disclosed in the DEIS, CH 3 Inventoried Roadless Areas beginning on page 580, pursuant to the requirements of NEPA.	Inventoried Roadless Areas - IRA
6C	Proposed burning was identified as an appropriate treatment tool to move vegetation towards desired conditions described in the Forest Plan.	Fire/Fuels
6D	The proposed burning in the IRA is based upon a comparison of the existing conditions and the desired mix of vegetation types. The Forest Plan and EIS describe the desired condition. The fire regime and fire return intervals have been interrupted, therefore implementing prescribed burning under controlled conditions will result in fire effects similar to natural moderate intensity fires that historically occurred, instead of the uncharacteristic high intensity wildfires that are common with these fuel loads and right weather conditions.	Silviculture – veg composition Wildfire
6E	The purpose and need for action is determined by the extent and intensity of differences between the existing and desired conditions, as noted in chapter 1 (DEIS pages 9-10): “Due to vegetation conditions in the project area being relatively homogenous by type, the area has not been very resilient to insects and disease. Stands were and are susceptible to insect attack and the mountain pine beetle outbreak has spread through the project area and many other stands remain highly susceptible to Douglas-fir beetle. Different types of proposed treatments would create more diverse vegetative structure moving the area towards more heterogeneous than homogeneous conditions. By taking actions now, a more diverse and sustainable forest may result moving the area towards meeting the Forest Plan direction of having a healthy and productive forest ecosystem.” The proposed burning in the IRA is based upon a comparison of the existing conditions and the desired mix of vegetation types. The Forest Plan and EIS describe the desired condition. Effects of burning on wildlife habitat are disclosed in the species specific analyses in the wildlife section of the FEIS chapter 3.	Wildlife
6F	See response to 6E regarding the purpose and need for the project. As described in response to comment 6E, burning is proposed to achieve a variety of objectives. Treatment objectives include promoting ponderosa pine, western larch Effects of proposed action on lynx were discussed in the wildlife section of the DEIS. The lynx analysis has been updated to incorporate additional information in threatened and endangered portion of the	Wildlife

Comment #	Response	Topic
	wildlife section of the FEIS.	
6G	Treatment effects to fisher are discussed in the wildlife section of the FEIS and fisher habitat will be reduced due to proposed burning. While natural processes are increasing stand structure and fisher habitat, other processes such as MPB mortality are reducing habitat and much the proposed treatment occurs in areas where habitat has been or will be reduced in the future due to continued mortality. Also an alternative was developed that reduces potential impacts to fisher (alternative 3) and a “natural restoration alternative (No Action) was considered. See response to comment 6E	Wildlife - wildlife
6H	Effects of proposed action on grizzly bear were discussed in the wildlife section of the DEIS. The grizzly bear analysis has been updated to incorporate additional information in threatened and endangered portion of the wildlife section of the FEIS. Finally, a Biological Assessment (BA) that evaluates effects to threatened and endangered species including grizzly will be prepared and consultation with the United States Fish and Wildlife Service will be completed prior to signing of a Record of Decision (ROD), and will be included in the project record.	Wildlife - wildlife
7A	The project is designed to move towards the desired conditions described in the forest plan. A comparison discussion was provided in the DEIS at pages 156 through 162 on the achievements of purpose and need to enhance and restore aspen, western larch, and ponderosa pine species and habitats, and improve the mix of vegetation composition and structure across the landscape that is diverse, resilient, and sustainable to wildfire and insects. The level of dead trees was discussed in the DEIS under the subheading “Snags” see DEIS pages 220-222, 229-231, 236-237, 240. Wildlife related to dead wood, standing and down, were discussed in the DEIS. Black-backed woodpecker and flammulated owl are two sensitive species associated with snag habitat (DEIS pages 282-286). Pileated woodpecker and hairy woodpecker are two management indicator species associated with snag habitat (DEIS pages 297-301). The DEIS disclosed at page 347: “While the action alternatives would reduce snags and DWD and modify understory and overstory structure and species composition as described above, these habitats would continue to be available across the landscape. Additionally, due to fire restoration and reduced conifer encroachment, habitat for species that prefer or require the dry forest community would be maintained or improved over the long term.”	NEPA forest health and purpose and need
7B	The DEIS discussed the presence of aspen at page 118: “In general, we can characterize aspen in proposed units and the project area as: (1) small clones, (2) heavily competing with to suppressed by conifers, and (3) a minor stand component (with a few exceptions).” The aspen stands identified for treatment were reviewed by the forest	Silviculture – conifer/aspen

Comment #	Response	Topic
	<p>staff and selected due the higher concentrations of conifer to aspen. There are numerous stands within the project area that are not being treated; therefore that habitat component is still available. As aspen need full sunlight to grow vigorously, the increased shade component from conifers reduces that viability. There is not a specific threshold of canopy closure by conifers that leads to aspen decline, but rather is a series of causal factors.</p> <p>The lynx analysis has been updated to address updated information and is discussed in the wildlife section of the FEIS.</p>	
7C	<p>Aspen treatments and anticipated effects were discussed in the DEIS (see pages 132, 139-140, 153, and 156-157). Livestock grazing management is analyzed under allotment management plans and beyond the scope of this analysis.</p>	NEPA
7D	<p>Effects of Mountain Pine Beetle mortality on wildlife and wildlife habitat are discussed throughout chapters 3 and 4 of the FEIS. While MPB has resulted in overstory mortality and reduced cover, benefits of mortality including increased understory vegetation and forage and increases in snags and down wood were recognized as a benefit to wildlife. While the DEIS recognized that MPB mortality increased habitat for snag dependent bird species such as the black-backed and hairy woodpecker, as the commenter points out, it did not include recent research on the HNF within beetle killed habitat. Information (Dresser et al. 2012) was consider and has been added to the wildlife discussion of MPB effects in the management indicator species section under the pileated woodpecker and hairy woodpecker discussions in the wildlife section in chapter 3 of the FEIS.</p>	Wildlife - MPB
8A	<p>Effects of past activities including logging and fuel treatments are discussed under the alternatives and species cumulative effects sections in the FEIS. The analysis summarized all past activities within the project area and combined area. For clarity, this information, has been displayed in the FEIS and includes activities since 1950 including over 4,000 acres of harvest, approximately 8,000 acres of fuels treatments, 4,500 acres of reforestation treatment and 800 acres of pre-commercial thinning. The methodology used to estimate snags is discussed under the Habitats of Special Concern section. The snag estimate presented is based on stand exam and Forest Inventory and Analysis (FIA) plots (DEIS page215), which included snags resulting from MPB mortality at that time. Also as described, because past harvest/regeneration units cannot be expected to have many snags and these sites are not represented in the FIA grid intensification plots used, we assumed that past harvest/regeneration treatment areas would have no snags and computed the 2008 snags per acre accordingly. Consequently effects of past actions on snags were considered and the snag estimate presented conservatively estimates available snags and habitat for snag dependent wildlife.</p> <p>In order to better address the distribution of snags, snag availability by</p>	Wildlife – snag associated wildlife

Comment #	Response	Topic
	<p>watershed has been added to the dead wood analysis presented in the wildlife section of the FEIS. While it is suggested that proposed logging would create “large voids” of habitat for snag dependent species, all harvest units would retain a minimum of 2 snags/acre, maintain large diameter snags, retain residuals if snags are absent and comply with Forest Plan standards related to snags. Also intermediate units would contain between 75 and 300 residuals per acre and regeneration harvest units would contain between 5 and 150 residuals per acre and these would be available for future snag recruitment. While it is recognized that snags per acre will vary, and that a range of conditions will exist, because of the widespread availability of snags in all size and decay classes within all project area drainages, retention of snags within treatment units, and recruitment of new snags due to on-going MPB mortality and continued high stand density on unaffected lands, snags will continue to be distributed across the project area and habitat would continue to be available to support cavity dependent species as discussed in the dead wood section and in sensitive species section under the black-backed woodpecker and flammulated owl , and in the management indicator species section under the pileated woodpecker and hairy woodpecker discussions in the wildlife section in chapter 3 of the FEIS.</p>	
8B	<p>This comment is noted. See response to comment 8A and availability of residual trees in all units for future snag recruitment and maintenance of habitat to support cavity dependent species. The snag analysis methodology and assumptions was discussed in the DEIS at pages 215-222.</p>	Wildlife – snag
8C	<p>See response to comment 8A. The DEIS included project design features specific to snags; the project design features were updated and are provided near the end of chapter 2 of the FEIS. See also the Dry Forest Habitat description in the wildlife section in chapter 3 of the FEIS regarding mortality of large diameter trees has increased with recent MPB mortality. While there is currently an abundance of large diameter snags, as existing large snags fall down and due to a reduction in ponderosa pine regeneration, recruitment of future large diameter snags would be reduced. Proposed treatments are designed to retain large diameter snags, as well as promote conditions that would result in recruitment of future large diameter snags.</p>	Wildlife – snag
8D	<p>The analysis recognized that not all harvest units would provide habitat for all species and that treatment would reduce habitat for both the pileated and hairy woodpeckers (See individual species discussions in the wildlife section in chapter 3 of the FEIS. See also response to comment 8A regarding snags, and available habitat for cavity dependent species.</p>	Wildlife – snag
8E	<p>While the pileated woodpecker prefers the structure associated with</p>	Wildlife – snag

Comment #	Response	Topic
	old growth habitat, it is not an old growth obligate and this species utilizes and has been documented in mid to late seral forest conditions across the project area and forest. See the pileated woodpecker analysis under the management indicator species section in the wildlife section of chapter 3 of the FEIS.	
9A	Road density information was updated to incorporate updated information from the Blackfoot winter travel plan. The road densities discussed in the FEIS accurately reflect existing conditions of the Bear Management Units, Lynx Analysis Units and Elk Herd Units evaluated. See species specific analyses in the wildlife section in chapter 3 of the FEIS. The moving windows analysis, which identifies total and open road densities by BMU was re-run for the Blackfoot winter travel plan and Stonewall FEIS. Also total and open road densities that would exist during implementation have been added to the big game analysis in the wildlife section in chapter 3 of the FEIS.	Wildlife – lynx road density
9B	Effects of proposed treatments on grizzly and Canada lynx were discussed in the DEIS and have been updated for the FEIS (see species discussions in the threatened and endangered portion in the wildlife section in chapter 3 of the FEIS). A Biological Assessment (BA) that evaluates effects to threatened and endangered species including grizzly and lynx will be prepared prior to signing of a Record of Decision (ROD). Consultation with the United States Fish and Wildlife Service will be completed for this project. The BA and outcome from consultation with the United States Fish and Wildlife Service will be included in the project record.	Wildlife – Grizzly roads
9C	See response to comment 9B.	Wildlife – Grizzly FWS
10A	See response to comment 9B.	Wildlife – Grizzly
10B	See response to comment 9B.	Wildlife – Grizzly
10C	See response to comment 9B.	Wildlife – Grizzly
10D	See response to comments 6G and 9B.	Wildlife – Grizzly
10E- 10F	The grizzly bear analysis has been updated to incorporate updated road information. The FEIS contains an updated route density and security core – moving Windows Analysis. See grizzly bear analysis in the Threatened and Endangered species discussions in the wildlife section in chapter 3 of the FEIS.	Wildlife – Grizzly
10G	This comment is noted and open road densities during project implementation have been added to the FEIS. While open road densities outside of core habitat were not separated out as suggested, effects of roads on grizzly bear habitat and mortality risk factors for all lands within project area BMU's were evaluated in the FEIS. See grizzly bear analysis in the Threatened and Endangered species discussions in the wildlife section in chapter 3 of the FEIS. Also see response to comment 9B regarding consultation with the United States Fish and	Wildlife – Grizzly

Comment #	Response	Topic
	Wildlife Service.	
11A	See response to comment 9B regarding ongoing project specific consultation with the United States Fish and Wildlife Service.	Wildlife – lynx
11B	All intermediate harvest treatment sites occur within the WUI and are near private land/structures that are at risk from wildfire. The Canada lynx analysis was updated to incorporate additional information. See Canada lynx analysis in the Threatened and Endangered species discussions in the wildlife section in chapter 3 of the FEIS. Project design features are in place that will ensure that no burning would occur in winter hare habitat on lands outside the WUI. All treatments are in compliance with Northern Rockies Lynx Management Direction (NRLMD). See also response to comment 9B regarding ongoing project specific consultation with the United States Fish and Wildlife Service.	Wildlife – lynx
11C	See response to comment 11B related to treatment within winter hare habitat. Also summer and winter movement corridors, as well as landscape linkages were considered and are discussed in the updated Canada lynx analysis in the Threatened and Endangered species discussions in the wildlife section in chapter 3 of the FEIS. See response to comment 9B and Fish and Wildlife Service concurrence.	Wildlife – lynx
11D	Additional information on project area fragmentation has been added in the updated Canada lynx analysis in the Threatened and Endangered species discussions in the wildlife section in chapter 3 of the FEIS. The information added included information provided in Squires et al 2013, that was based on project area documentation of lynx and winter and summer movement corridors.	Wildlife – lynx
11E	The Canada lynx analysis was updated to incorporate additional information, including treatment effects on lynx den and foraging habitat. See Canada lynx analysis in the Threatened and Endangered species discussions in the wildlife section in chapter 3 of the FEIS.	Wildlife – lynx
11F	The Canada lynx analysis was updated to incorporate additional information, including treatment effects on winter habitat. See Canada lynx analysis in the Threatened and Endangered species discussions in the wildlife section in chapter 3 of the FEIS. The project analysis for lynx has been updated and impacts were determined to result in a May effect – likely to adversely affect determination for lynx. The Forest Service is conducting formal consultation with the USFWS and the Biological Opinion will address lynx and lynx critical habitat. See Canada lynx analysis in the Threatened and Endangered species discussions in the wildlife section in chapter 3 of the FEIS. Also see response to comment 11H related to unaffected habitat maintained.	Wildlife – lynx
11G	The Canada lynx analysis was updated to incorporate additional information, including treatment effects on lynx habitat. See Canada lynx analysis in the Threatened and Endangered species discussions in the wildlife section in chapter 3 of the FEIS.	Wildlife – lynx

Comment #	Response	Topic
11H	The Canada lynx analysis was updated to incorporate additional information, including treatment effects on lynx habitat. The project analysis for lynx has been updated and impacts were determined to result in a May effect – likely to adversely affect determination for lynx. The Forest Service is conducting formal consultation with the USFWS and the Biological Opinion will address lynx and lynx critical habitat. See Canada lynx analysis in the Threatened and Endangered species discussions in the wildlife section in chapter 3 of the FEIS.	Wildlife – lynx
11I	Information from Squires et al 2010 and Squires et al. 2013 that provides documented lynx use in the Seeley Lake area has been considered in the updated Canada lynx analysis in the Threatened and Endangered species discussions in the wildlife section in chapter 3 of the FEIS. The project analysis for lynx has been updated and impacts were determined to result in a May effect – likely to adversely affect determination for lynx. The Forest Service is conducting formal consultation with the USFWS and the Biological Opinion will address lynx and lynx critical habitat. See Canada lynx analysis in the Threatened and Endangered species discussions in the wildlife section in chapter 3 of the FEIS.	Wildlife – lynx
11J	Treatment effects in unsuitable stand initiation habitat (e.g. young clearcuts that are not suitable habitat) were discussed on pages 375 to 376 of the DEIS, and as described, treatment would reduce snowshoe hare habitat on the affected sites. The acres of unsuitable stand initiation habitat affected by treatment are displayed in tables 91 and 92 of the DEIS. See updated Canada lynx analysis in the Threatened and Endangered species discussions in the wildlife section in chapter 3 of the FEIS.	Wildlife – lynx
11K	Effects of burning to lynx habitat within project LAU's, including effects to inventoried roadless areas and anticipated effects to movement are discussed in the updated Canada lynx analysis in the Threatened and Endangered species discussions in the wildlife section in chapter 3 of the FEIS. See response to comments 11F and 11G related to retention of winter hare habitat and comment 11D related to effects on lynx movement.	Wildlife – lynx
11L	Effects of harvest on hare habitat are discussed in the updated Canada lynx analysis in the Threatened and Endangered species discussions in the wildlife section in chapter 3 of the FEIS.	Wildlife – lynx
12A	The Forest Plan addresses the National Forest Management Act requirements and includes direction for old growth management. Project area old growth was discussed under the Habitats of Special Concern section of the DEIS (pages 68-69, 215-219, 222-240). DEIS tables 55 through 57 (pages 222-224) display the existing stands with old growth characteristics. The DEIS disclosed at page 240 that the Forest Plan direction regarding old growth would be met. The existing old growth stands within the project area would continue to provide	Silviculture – old growth

Comment #	Response	Topic
	<p>old growth habitat. Maps of old growth were provided in the DEIS in figures 57, 64 and 71 (DEIS pages 232, 238 and 289). The maps of old growth have been updated in the FEIS to clarify terminology.</p> <p>The DEIS disclosed effects on pine marten (pages 302, 326, 444-448), northern goshawk (page 294-297, 325, 428-436), pileated woodpecker (pages 297-300, 325, 436-442) and migratory birds (pages 315-318, 327, 348-354, 474-475). Analyses of these species are found in the respective areas in the wildlife analysis in chapter 3 of the FEIS.</p>	
12B	<p>The analysis does not claim that logging old growth will not affect its value to wildlife, but that designated old-growth habitat would remain largely unchanged including providing structural conditions such as large-diameter trees and increased levels of snags and DWD (DEIS page 240).</p> <p>Effects of proposed treatments on goshawk, pine marten, lynx and songbirds are discussed under their respective species headings in the wildlife section of the FEIS.</p>	Wildlife – old growth
12C	<p>Project area old growth was discussed with maps provided under the Habitats of Special Concern section of the DEIS (pages 68-69, 215-219, 222-240). DEIS tables 55 through 57 (pages 222-224) display the existing stands with old growth characteristics. The old growth maps have been updated to clarify terminology in the FEIS. The DEIS appendix C included a map depicting past activities and this appendix has been updated in the FEIS.</p>	Silviculture
12D	<p>The DEIS disclosed at page 240 that the Forest Plan direction regarding old growth would be met. The two stands of existing old growth proposed for prescribed burn treatments are anticipated to continue to provide old growth characteristics.</p> <p>Effects of proposed treatments on MIS were disclosed in the DEIS (pages 287-302, 428-448). This information is also disclosed in the FEIS under the MIS analysis in the wildlife section of the FEIS.</p>	Silviculture
13	<p>Forest-wide monitoring data related to MIS are discussed in the FEIS and included landbird monitoring information, Region 1 songbird data, Forest and Region wide assessments and monitoring, project area documentation/monitoring and Statewide data (Samson 2006a and b, Avian Science Center 2006a-c, Montana Natural Heritage Program 2011, 2013, USDA FS 2008d, USDA FS 2011c, USDA FS 2011e, USDA FS 2012h and Wild Things Unlimited 2011). See response to comment 13A related to carnivore monitoring and 15D related to goshawk monitoring.</p>	Wildlife – MIS monitoring
13A	<p>Forest monitoring for marten has included project EA's, habitat sampling by transects of marten use, survey data collected as part of the Northern Region fisher surveys, MFWP furbearer survey route locations and data collected by Wild Things Unlimited (USDA Forest Service 2012h). Carnivore monitoring has also been completed within the Blackfoot landscape, and use of the project area by marten has</p>	Wildlife – pine marten

Comment #	Response	Topic
	<p>been documented (Wild Things Unlimited 2012, USDA Forest Service 2011c). As described under methodologies, marten habitat is monitored by and based on the Forest using intensified grid data. Marten are used as an indicator of large blocks of mature forest and while there are no Forest old growth objectives related to marten, the Stonewall project complies with Plan direction related to old growth.</p>	
13B	<p>American marten analysis is disclosed under Management Indicator Species in the wildlife section of chapter 3 of the FEIS. See response to comment 12A regarding old growth habitat discussions.</p>	Wildlife – old growth MIS
13C	<p>The DEIS disclosed effects on pine marten (pages 302, 326, 444-448). American marten analysis is disclosed under Management Indicator Species in the wildlife section of chapter 3 of the FEIS. The landscape connectivity and fragmentation effects discussion in the wildlife section in chapter 3 of the FEIS.</p>	Wildlife – pine marten
14A	<p>The DEIS disclosed effects on pileated woodpecker (pages 297-300, 325, 436-442). Pileated woodpecker is address under management indicator species in the wildlife section in chapter 3 of the FEIS. Pileated woodpecker habitat is defined under methodology Pileated woodpeckers were chosen as a MIS because they are the largest primary excavator on the forest. Also because they have the most restrictive requirements in terms of snag size of any cavity nester on the Forest and have feeding requirements for large snags and down logs, they were expected to be a good “old growth indicator. These structural components are not found exclusively in old growth and tend to be characteristic of late successional forests. Also the pileated woodpecker is not an old growth obligate species, as evidenced by documentation across the Forest in mid to late seral forest conditions. Forest pileated woodpeckers monitoring has included recorded observations since 1994, data provided by the Northern Region Landbird monitoring program and Birds and Burn surveys. Pileated woodpeckers are not common on the Forest and other portions of Region 1, particularly west-side Forests, which generally have between 5 and 10 percent occurrence rates compared to 1.5 percent on the HNF (USDA FS 2008d). See response to comment 12B related to maintenance of old growth structural conditions. Under the action alternatives; approximately 93 percent of existing pileated woodpecker habitat would be maintained, preferred structural conditions would be maintained across the landscape, and there is not expected to be a local or regional change in habitat quality or populations status.</p>	Wildlife – pileated woodpecker
15A	<p>The DEIS disclosed effects on northern goshawk (page 294-297, 325, 428-436). The DEIS page 291 through 293 discussed goshawk species biology, citing the applicable literature.</p>	Wildlife - goshawk

Comment #	Response	Topic
	<p>Page 431 acknowledged: “Generally, small mammal habitat specialists such as red-backed vole, flying squirrels and shrews decrease, whereas increases occur in habitat generalists such as mice and chipmunks (Zwolak and Foresman 2007).”</p> <p>Goshawk is discussed under the management indicator species analysis in the wildlife section in chapter 3 of the FEIS.</p> <p>Methodology used to assess goshawk habitat section describes species, canopy and size class conditions that were used to identify nest and foraging habitat. The analysis presented looks at landscape conditions, including the amount and distribution of habitat and both action alternatives would maintain adequate habitat to support up to four nesting pairs of goshawk.</p>	
15B	<p>See response to comment 12A regarding old growth discussions in the DEIS. See response to comment 15A regarding goshawk analysis and foraging.</p> <p>Project design features are in place that would minimize the likelihood that nesting birds would be affected, maintain structural conditions around active nests and maintain conditions consistent with goshawk use and territory occupancy (Samson 2006a).</p> <p>See response to comment 15A.</p>	Wildlife - goshawk
15C	<p>Goshawk is discussed under the management indicator species analysis in the wildlife section in chapter 3 of the FEIS.</p> <p>The DEIS disclosed impacts at pages 293 and 291: “Competition from red-tailed hawks and great-horned owls confines goshawks to dense forest, but this applies primarily to nest sites and potential predation on young rather than to foraging by adults (Reynolds et al. 1992).”</p> <p>Other literature that was considered in the analysis includes:</p> <p>La Sorte, F.A.; Mannan, R.W.; Reynolds, R.T.Grubb, T.G.. 2004. Habitat associations of sympatric red-tailed hawks and northern goshawks on the Kaibab Plateau. <i>Journal of Wildlife Management</i>. 68: 307-317.</p> <p>Reynolds, R. T., R. T. Graham and M. H. Reiser. 1992. Management recommendations for the northern goshawk in the southwestern United States. General Technical Report RM-217. Ft. Collins, CO: U. S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station. 184 pp.</p> <p>Samson, Fred B. 2006a. A conservation assessment of the northern goshawk, black-backed woodpeckers, flammulated owl, and pileated woodpecker in the Northern Region. U.S. Department of Agriculture, Forest Service.</p> <p>Squires, J. R., and P. L. Kennedy. 2006. Northern goshawk ecology: an assessment of current knowledge and information needs for conservation management. <i>Studies in Avian Biology</i> 31: 8-62.</p> <p>United States Department of Interior, Fish and Wildlife Service. 1998. Northern Goshawk Finding. June 1998. Portland, Oregon. 129 pp.</p>	Wildlife goshawk conversion of habitat to red-tailed hawk
15D	<p>Forest-wide goshawk surveys are conducted annually according to the Goshawk Field Inventory Methods Helena National Forest 2009 and</p>	Wildlife - goshawk

Comment #	Response	Topic
	<p>the Northern Goshawk Inventory and Monitoring Technical Guide (USDA FS 2006) and surveys have been conducted within the project area and Blackfoot landscape (USDA FS 2012h). Goshawk old growth surveys were also been conducted in polygons that had been established as part of the Northern Region Landbird Monitoring Program Birds in Old Growth 2007 (USDA FS 2011e). Samson (2006a) provides habitat estimates for maintaining viable populations of the Northern Goshawk and this information has been incorporated into the FEIS. Based on this information, adequate habitat exists to support forest populations of goshawk.</p>	
16A	Comment regarding the DEIS disclosure of impacts on fisher noted.	Wildlife - fisher
16B	<p>The DEIS disclosed anticipated effects on fisher under the Sensitive Species discussions in the wildlife section in chapter 3 (pages xix, 78, 247-249, 255, 257, 278-280, 304-305, 321, 354). Fisher analysis has been updated in the FEIS and is disclosed under Sensitive Species in the wildlife section in chapter 3.</p>	Wildlife - fisher
16C	See response to comment 16B	Wildlife - fisher
16D	As described in response to comment 16B, much of the project area treatment is proposed in areas where fisher habitat has been recently reduced and is expected to be further reduced in the future. Fisher habitat is well distributed across the Forest and Region (Samson 2006b).	Wildlife - fisher
16E	The FEIS recognized that fishers avoid use of large openings and this is reflected in the post-treatment availability of suitable habitat. Also it is recognized that this would be a long-term reduction in suitable habitat. See response to comment 16B related to landscape level changes and use.	Wildlife - fisher
16F	This comment is noted and the FEIS recognized that treatment of stands affected by MPB mortality would result in a reduction in fisher habitat. Also effects include a long-term reduction in habitat associated with final harvest activities and a reduction in habitat quality resulting from treatments that reduce understory structure and downed woody debris.	Wildlife - fisher
17A	<p>As described in the purpose and need section in chapter 1 of the FEIS, and in the project fuels report, project objectives include restoring fire to the landscape, while reducing fuels to a level that large catastrophic wildfires such as the 23,000 acres Snow Talon fire do not occur or are reduced in size. Objectives include reducing fuels and modifying fire behavior to enhance community protection while creating conditions that allow re-establishment of fire as a natural process on the landscape. Proposed activities would also help to restore historic levels and intensity of wildfire, reduce the risk of large stand replacing wildfire and help to maintain forested conditions that would facilitate long-term use by wolverine.</p> <p>All proposed thinning occurs at low elevations that lack the deep</p>	Wildlife - wolverine

Comment #	Response	Topic
	persistent snow required for wolverine denning or dispersal. Treatment would not modify wolverine use due to changes in snow conditions, as suggested. Effects analysis of proposed treatments on wolverine habitat is discussed under Forest Service sensitive species in the wildlife section in chapter 3 of the FEIS.	
17B	Effects of proposed treatments on the availability of wolverine prey, including changes in small mammals and the availability of big game carrion are discussed under Forest Service sensitive species in the wildlife section in chapter 3 of the FEIS. It is recognized that treatment would reduce habitat for species such as the red squirrel and snowshoe hare, whereas habitat for other small mammals would likely increase following treatment (Ruediger 2000, Woolf 2003). It was also recognized that in Montana big game carrion appears to be the major source of food for wolverine (Banci 1994, Pasitschniak and Lariviere 1995). While big game use would change, considering that 90 percent of the analysis area would be unaffected, that big game security habitat would be maintained, and that the amount and quality of forage would be maintained or improved, adequate habitat would continue to be available both in the short and long term to support desired levels of elk. As a result wolverine foraging habitat would be maintained under both alternatives.	Wildlife - wolverine
17C	Effects on wolverine have been updated to incorporate additional information and is discussed under Forest Service sensitive species in the wildlife section in chapter 3 of the FEIS. While both action alternatives propose mixed severity burning in modeled natal denning habitat, because treatment would not occur during the denning period, there are no effects to wolverine denning anticipated. Also approximately 93 percent of the analysis area would be unaffected, and the availability of den habitat would be maintained across the landscape under both action alternatives.	Wildlife - wolverine
17D	The wolverine is identified as a Forest Service Sensitive species. The Wildlife Resource Report and Biological Evaluation includes the analysis of effects of proposed activities on sensitive species, including wolverine. The analysis is located under sensitive species in the wildlife section in chapter 3 of the FEIS.	Wildlife - wolverine
18	The DEIS disclosed the affected environment (page 256) and environmental effects (pages 355- 357) on mountain meadows and shrub habitats. Commenter incorrectly cited information disclosed in the DEIS. DEIS Page 256 discusses the affected environment: Mountain meadows and shrubs currently occur on approximately 700 acres or 3 percent of the project area, whereas shrub habitat exists on 138 acres. Approximately half of the existing habitat was created during the Keep Cool fire in 2006. The remainder is widely scattered at upper elevations in the headwaters of Keep Cool and Beaver Creeks. Due to	Silviculture/Wildlife – shrubs

Comment #	Response	Topic
	<p>conifer encroachment, this community has been declining. DEIS page 356 discloses the environmental effects of alternatives 2 and 3 and the benefits of treatment <i>[clarification added here]</i>: Alternatives 2 and 3 propose prescribed fire (mixed severity) on 75 acres of meadow habitat (11 percent <i>[of the meadow habitat present in the project area]</i>) and 18 acres of mountain shrub habitat (13 percent <i>[of the mountain shrub habitat in the project area]</i>). Effects of proposed burning include mortality and a reduction in shrubs, as well as a change in shrub density on the acres treated. Although there would be mortality in the decadent and mature size class, burning would result in development of a younger age class or rejuvenate decadent shrubs, as well as increase herbaceous vegetation (Peterson and Best 1987). As a result, treatment would improve the diversity and health of stands over the long term, as well as provide habitat for species such as the calliope hummingbird that utilize re-growth after a fire (PIF 2000). The mountain meadows and shrubs discussions and analysis is located in the wildlife sections in chapter 3 of the FEIS.</p>	
19A	<p>On July 19, 2011, the U.S. Fish and Wildlife Service (FWS) published in the Federal Register its 12-month status review finding on a petition to list whitebark pine under the Endangered Species Act. After a review of all available scientific and commercial information, the FWS concluded that listing the species as threatened or endangered is warranted, but precluded by higher priority actions. This finding results in whitebark pine being a FWS candidate for listing. Candidate species receive no statutory protection under the ESA. Therefore, the Forest Service is not required to formally consult with the FWS concerning whitebark pine. Whitebark pine is designated a R1 sensitive species by the Regional Forester, and the biological evaluation completed for this project reflects that designation. The effects to whitebark pine are included in the analysis with anticipation of the possible federal listing. The analysis disclosed the logging/burning proposed is expected to enhance habitat for Clark's nutcrackers due to the removal of shade-tolerant species and creation of caching sites. In addition, there is a resource protection measure designed to enhance the establishment of caching sites. At this time consultation with the FWS is not required. If it is required in the future it will occur then.</p>	Plants - WBP
19B	<p>The analysis of grizzly bear has been updated in the Threatened and Endangered Species discussions in the wildlife section in chapter 3 of the FEIS. Whitebark pine was discussed under plants in the DEIS (page 481), with additional information provided in appendix B of the DEIS (appendix C pages 101-104). Clark's nutcracker habitat was discussed under the upper sub-alpine forest habitat in the wildlife section in chapter 3 of the DEIS. As</p>	Wildlife – Clark's nutcracker

Comment #	Response	Topic
	described, proposed activities would promote white bark pine regeneration, establish nutcracker caching sites and result in the long-term maintenance of this important species (Cornell Lab of Ornithology 2012). Over the long-term both alternatives would also maintain or improve ponderosa pine and Douglas-fir, which are utilized by Clark's nutcrackers (MFWP 2013), and reduce insect and disease related mortality. Collectively for these reasons, both alternatives would be expected to improve habitat for the Clark's nutcracker.	
20A	The DEIS pages 282-284; 422-426 disclose the flammulated owl habitat analysis. Cumulative effects to flammulated owls was discussed on page 425 for the action alternatives, appendix C included past activities in the analysis area, reflected in the existing habitat condition discussed. This information is carried forward into the FEIS. Monitoring for flammulated owls has occurred on the Blackfoot landscape and flammulated owls have been documented at nine locations near the project area. While it is recognized that the project area does not provide high quality flammulated owl habitat, considering this documentation, the increased availability of large diameter snags, the predominance of ponderosa pine/Douglas-fir at lower elevations, and presence of suitable habitat, it is likely the project area is utilized for foraging if not nesting. Forest and regional availability of flammulated owl habitat is provided by Samson 2006b and implementation of proposed actions would not reduce habitat below viability thresholds, See Flammulated Owl Project Area Habitat discussion in the wildlife section in chapter 3 of the FEIS.	Wildlife – Flammulated owl
20B	See response to 20A regarding flammulated owl habitat analysis.	Wildlife – Flammulated owl
20C	See response to comment 20A related to project area documentation of flammulated owls. The FEIS recognized that nesting birds could be directly affected by treatment, although due to the retention of all snags greater than 20 inches dbh (unless they pose a safety risk) and the owls tolerance of human activities (Hayward and Verner 1994), the likelihood of mortality is low.	Wildlife – Flammulated owl
20D	See response to comment 20A related to project area documentation of flammulated owls. Snag methodology is discussed under Habitats of Special Concern in the DEIS (pages 215-240). Information under the methodology discussion of Dead Wood in the wildlife section in chapter 3 of the FEIS has been updated. As the commenter points out, the DEIS incorrectly implied the action alternatives would be consistent with this direction. The FEIS clarifies that the information provided in Bollenbacher et al. (2008) is more applicable and that this information is used to assess landscape level availability of snags. The compliance section of the FEIS under the	Wildlife – Flammulated owl

Comment #	Response	Topic
	flammulated owl clarifies that the action alternative would meet Forest Plan direction related to snags, ensure that large diameter snags are provided in the future on sites treated and provide landscape level snags characteristic of eastside forests (Bollenbacher et al. 2008).	
21A	Effects of proposed treatments on biophysical settings including shrub habitat and closed canopy forest is disclosed in the FEIS, which identifies changes in early seral, mid to late seral closed, and mid to late seral open habitat under all alternatives. Rationale, or the purpose and need for treatment is described in chapter 1 of the FEIS and includes promoting habitat conditions that more closely represent historic conditions, reducing fire risk, and promoting species diversity. See response to comment 4H related to burning in shrub habitat. Effects to closed canopy species, including the northern goshawk, pileated woodpecker, fisher, marten and lynx are discussed in the respective sections in chapter 3 of the FEIS. While the pine marten is a mature forest indicator, its need for closed canopy forest was recognized.	Wildlife - songbirds
21B	The migratory bird analysis described the methodology for analysis and discuss existing songbird habitat and environmental effects of the habitat conditions under the biophysical settings. The alternative effects analysis and analysis for species such as flammulated owl, pileated woodpecker, northern goshawk , lynx, grizzly and big game, discuss changes in vegetation composition and structure, old growth, seed production, changes in cover and forage and effects to species that prefer undisturbed forests. Based on the analysis provided, the action alternatives would help to restore declining habitats while maintaining diverse habitat conditions across the landscape. As a result, habitat for migratory birds would be maintained or improved and all alternatives are in compliance with the Migratory Bird Treaty Act (see migratory bird analysis in the wildlife section in chapter 3 of the FEIS).	Wildlife - songbirds
21C	Project area old growth was discussed under the Habitats of Special Concern section of the DEIS (pages 68-69, 215-219, 222-240). The DEIS disclosed at page 240 that the Forest Plan direction regarding old growth would be met. Migratory birds were discussed in the wildlife section of the DEIS (see especially pages 315-318, 327, 348-354, 474-475). These discussions are carried over into the FEIS, in their respective locations in chapter 3.	Wildlife - songbirds
21D	The landscape connectivity and fragmentation effects discussion in the wildlife section in chapter 3 of the FEIS has been updated to expand the discussion of effects of fragmentation and potential cowbird parasitism. References cited include: Cavitt and Martin 1993, Chalfoun et al. 2002, Hejl et al. 1995, Stevens et al. 2003, Tewksbury et al. 1998, and Young and Hutto 1999.	Wildlife - songbirds

Additional Literature Review from DEIS comments. (See also the full literature review for items previously submitted during the scoping comment period.)

Literature
<p><b>Baeten et al 2008. Colorado Division of Wildlife Research Report. Post Release Lynx Monitoring. 38 pp.</b></p> <p><b>Review:</b> This research Study documented lynx movements, reproduction and landscape habitat from animals released in 1997. Results indicated; 1) primary winter prey were snowshoe hare and red squirrel, 2) Engelmann spruce and subalpine fir stands with 42 to 62 percent canopy closure and 15 to 20 percent conifer understory were most commonly used, 3) den sites were more commonly located on steep north-facing slopes at higher elevations with a dense understory of coarse woody debris. Results indicated that while successful post-release long-term survival can be achieved, it has yet to be determined if the State can support sufficient recruitment to offset annual mortality over time and ensure viability.</p> <p>Lynx habitat conditions documented in this study are consistent with those described in the Stonewall DEIS/FEIS, including use of spruce-fir forest with a conifer understory, reliance on snowshoe hare, preference for red squirrel as an alternate prey, den site selection, and identification of suitable habitat (DEIS pp. 261-265).</p> <p>Effects to lynx have been updated in the FEIS to incorporate additional information.</p>
<p><b>Bull, E., et al 2001. Effects of Disturbance on Forest Carnivores of Conservation Concern in Eastern Oregon and Washington. Northwest Science. Vol 75, Special Issue 2001.</b></p> <p><b>Review:</b> This document was identified during scoping and again at the review of the DEIS. This study and the importance of downed wood for forest carnivores are discussed in the DEIS and FEIS. Effects of proposed treatments on lynx, wolverine and other carnivores were discussed on pages 370- 396, 398-405, 408-410, 411-412, 414-417 and 446-448 of the DEIS. Discussions are located in the respective species discussions in the wildlife section of chapter 3 of the FEIS. The Canada lynx analysis was updated to incorporate additional information in the FEIS.</p>
<p><b>Drennan, J. and R. Beier. 2003. Forest structure and prey abundance in winter habitat for northern goshawks. Journal of Wildlife Management 67:177-185.</b></p> <p><b>Review:</b> This document was identified during scoping and again at the review of the DEIS. The importance of forest structure and prey availability to goshawk were discussed in the DEIS on pages 291 to 293, whereas structural changes resulting from proposed action are discussed on pages 429 to 436 of the DEIS.</p>
<p><b>Ercelawn, A. 1999. End of the Road -- The Adverse Ecological Impacts of Roads and Logging: A Compilation of Independently Reviewed Research. 130 pp. Natural Resources Defense Council. New York.</b></p> <p><b>Review:</b> This document was identified during scoping and again at the review of the DEIS. Road related effects to wildlife from this study are referenced on page 337 of the DEIS. General road related effects of proposed actions are discussed on pages 337 to 338, as well under the effects for the individual species analyzed</p>
<p><b>Ercelawn, A. 2000. Wildlife Species and Their Habitat: The Adverse Impacts of Logging -- A Supplement to End of the Road. 41 pp. Natural Resources Defense Council. New York. Available online at: <a href="http://www.nrdc.org/land/forests/eotrsupp.asp">http://www.nrdc.org/land/forests/eotrsupp.asp</a></b></p> <p><b>Review:</b> This document was identified during scoping and again at the review of the DEIS. Road related effects to wildlife from this study are referenced on page 337 of the DEIS. General road related effects of proposed actions are discussed on pages 337 to 338, as well under the effects for the individual species analyzed.</p>
<p><b>Gabler, K., J. Laundre, and L. Heady. 2000. Predicting the suitability of habitat in southeast Idaho for pygmy rabbits. J. Wildlife Manage. 64:759 -764, and</b></p> <p><b>Katzner, T., and K. Parker. 1997. Vegetative characteristics and size of home ranges used by pygmy rabbits (<i>Brachylagus idahoensis</i>) during winter. J. Mammology 78:1063-1072. and</b></p> <p><b>Montana Department of Fish, Wildlife and Parks. 1997. Status and distribution of the pygmy rabbit in Montana: final report. Montana Department of Fish, Wildlife and Parks. PO Box 173220, Bozeman, MT.</b></p> <p><b>Review:</b> These documents were during scoping and again at the review of the DEIS. The pygmy rabbit does not occur on the Helena NF (USDA FS 2011). Habitat for and effects to species dependent on sagebrush (such as the pygmy rabbit) are evaluated and discussed in the DEIS and FEIS.</p>

Literature
<p><b>Johnson, Sara Jane and Mike Garrity. 2007. Appeal of the Record of Decision for the Northern Rockies Lynx Management Direction National Forests in Montana, and parts of Idaho, Wyoming and Utah. 17 pp.</b></p> <p><b>Review:</b> This appeal challenges the Northern Rockies Lynx Management Direction (NRLMD) on a number of points including: 1) The amendment is too vague to predict with reasonable accuracy as to how it would affect conservation and recovery of lynx, 2) Standards that are supposed to protect, conserve and recover the lynx are largely arbitrary without any scientific basis, including that provided by monitoring, 3) the Forest Service failed to provide adequate public involvement in the development of the Amendment, 4) there is an inadequate range of alternatives, 5) there was an inadequate analysis of cumulative effects of the proposed lynx management strategy on this threatened species, 6) the amendment promotes violation of management area direction in current Forest Plans without requiring a site-specific amendment, and NFMA direction regarding compliance with guidelines., and 7) the amendment violates the Endangered Species Act.</p> <p>The appeal is not site-specifically relevant to this project, however, Canada lynx is a species analyzed. The Helena Forest Plan was amended to incorporate NRLMD and habitat conditions and effects of treatment discussed in the Stonewall DEIS (pages 261-269 and pages 367-369) are based on NRLMD and the amended Forest Plan. The analysis for Canada lynx was updated to incorporate additional research information and disclosed in the FEIS. Consultation with the US Fish and Wildlife Service will be completed prior to issuance of the Record of Decision.</p>
<p><b>Lacy, Robert C and Tim W. Clark. 1993. Simulation Modeling of the American Marten (Martes Americana) Populations: Vulnerability to Extinction. Great Basin Naturalist. Vol 53 No. 3 pp. 282-292.</b></p> <p><b>Review:</b> This paper summarized results from a population model (VORTEX) developed to estimate extinction probability for marten populations as a management tool. Various levels of timber harvest, commercial trapping and other factors can be used to estimate effects on marten populations</p> <p>This document was identified during scoping and again at the review of the DEIS. In order to use the model developed by the authors, information on population density, survival and demographics must be known or estimated. This level of information is not available for the Stonewall project area. As described on page 300 of the DEIS, analysis of marten habitat is based on information provided in Habitat Estimates for Maintaining Viable Populations of the Northern Goshawk, Black-backed Woodpecker, Flammulated Owl, Pileated Woodpecker, American Marten and Fisher (Samson 2006b). The analysis presented includes an assessment of conditions that would affect marten use and survival including landscape considerations and connectivity, recent disturbances, predation and prey availability, and use of logged vs. unlogged forests. Effects of treatment on stand and landscape level marten habitat were considered and are discussed on pages 446 to 448 of the DEIS.</p>
<p><b>Marcot, Bruce G. &amp; D. D. Murphy, 1992. Population viability analysis and management. In Szaro, R., ed. Biodiversity in Managed Landscapes: Theory and Practice. Proceedings of: Conference on Biodiversity in Managed Landscapes: Theory and Practice, 13-17 July, 1992, Sacramento, CA.</b></p> <p><b>Review:</b> This document was identified during scoping and again at the review of the DEIS. This document provides no site specific information and is not relevant to the project.</p>
<p><b>McKelvey, K.S., S. Mills, J.J.Claar, K.L. Pilgrim and L.F. Ruggiero. 2002. National Lynx Survey. 5 pp.</b></p> <p><b>Review:</b> This document includes a summary of the National Lynx Survey by the above authors, a map of lynx records from 1842 to 1998, and a map displaying National lynx survey hits. The National lynx survey identified documented both historical and current range of lynx.</p> <p>This information was considered for the project and is similar to other information used for analysis. Results from this survey clearly show that the Stonewall project area has both historic and current use by lynx, which was recognized in the DEIS.</p>
<p><b>Montgomery, A., G.MacFarlane and M. Garrity. 2007. Appeal of the Northern Rockies Lynx Management Decision. 12 pp.</b></p> <p><b>Review:</b> Appellants outlined why the Record of Decision was arbitrary, capricious and illegal. Specific reasons included; 1) The Forest violated NEPA and Administrative Procedures Act by selection arbitrary criteria to determine whether habitat was occupied, 2) The FEIS and ROD failed to evaluate the importance of unoccupied habitat, analyze effects on connectivity, identify a desired future condition and did not contain adequate standards to protect and restore lynx habitat, 3) the selected alternative failed to utilize the best science, and did not remedy the reasons why lynx require ESA protection, 4) the FEIS failed to analyze effects on lynx denning, foraging and travel corridors and did not contain a comprehensive monitoring plan., and 5) the ROD effectively pre-approved future forest plan amendments without going through NEPA or NFMA.</p> <p>The Helena Forest Plan was amended to incorporate NRLMD and habitat conditions and effects of</p>

Literature
<p>treatment discussed in the Stonewall DEIS (pages 261-269 and pages 367-369) are based on NRLMD and the amended Forest Plan. Consequently the issues and concerns identified in this appeal are outside the scope of the Stonewall project.</p>
<p><b>Tomson, S. Personal Communication between Scott Tomson (Wildlife Biologist, Lolo National Forest, with Katrina Dixon (Biologist USFWS Region 6). 2011.</b></p> <p><u>Review:</u> This is a response from Scott Tomson responding to a request from Katrina Dixon for information and questions on the Colt Summit project. Scott clarified when construction and use of proposed temporary roads would occur and the timeframes for proposed burning. Scott sent maps with lynx documentation and discussed that preliminary analysis indicated that higher concentrated use occurred in wetter subalpine fir and spruce types, whereas low elevations and west and south facing aspects were rarely used. Scott also documented effects to lynx primary constituent elements.</p> <p>This communication was considered for the updated Canada lynx analysis presented in the FEIS. Additional information related to habitat use, e.g., Squires et al. 2006, has been added to the FEIS.</p>
<p><b>Powers, L. A. Dale, P. Gaede, C. Rodes, L. Nelson, J. Dean, and J. May. 1996. Nesting and food habits of the flammulated owl (<i>Otus flammeolus</i>) in southcentral Idaho. J. Raptor Research 30:15-20.</b></p> <p><u>Review:</u> This document was identified during scoping and again at the review of the DEIS. This document is not site specifically relevant to the project; however, the topic of flammulated owl is relevant to the project. The analysis for the Stonewall Vegetation Project used more locally relevant information from Samson (2006) estimated flammulated owl breeding habitat available in each national forest in R1 along with information from Wright (1992,1996):</p> <p>Samson, Fred B. 2006a. A conservation assessment of the northern goshawk, black-backed woodpeckers, flammulated owl, and pileated woodpecker in the Northern Region. U.S. Department of Agriculture, Forest Service.</p> <p>Samson, Fred B. 2006b. Habitat estimates for maintaining viable populations of the northern goshawk, black-backed woodpecker, flammulated owl, pileated woodpecker, American marten, and fisher. U.S. Department of Agriculture, Forest Service.</p> <p>Wright, Vita. 1992. Multi-scale analysis of flammulated owl habitat: Owl distribution, habitat, and conservation. M.S. thesis, University of Montana. Missoula, MT.</p> <p>Wright, V. 1996. Multi-scale analysis of flammulated owl habitat use: owl distribution, habitat management, and conservation. Master's thesis, University of Montana, Missoula, Montana, USA.</p>
<p><b>Ruggerio et al. 1994. Viability Analysis in Biological Evaluations: Concepts of Population Viability Analysis, Biological Population, and Ecological Scale. Rocky Mountain Forest and Range Experiment Station. Laramie, Wyoming.</b></p> <p><u>Review:</u> The author points out that conducting a viability analysis for wildlife populations is difficult to achieve at the project level. The Stonewall Vegetation Project concerns are more habitat related than specific wildlife populations.</p> <p>This document was identified during scoping and again at the review of the DEIS. The authors relay environmental analysis of local management actions should assess the ecological responses of populations rather than the response of the entire population. The process used to assess viability is described on page 242 of the DEIS, which follows Regional direction (USDA Forest Service 1999).</p>
<p><b>Ruggiero, L.F., K.B. Aubry, S.W. Buskirk, G.M. Koehler, C.J. Krebs, K.S. McKelvey and J.R. Squires. 1999. Ecology and Conservation of Lynx in the United States. Rocky Mountain Research Station. General Technical Report. RMRS-GTR-30WWW. 485 pp.</b></p> <p><u>Review:</u> This document was produced by a team of scientists that reviewed available scientific knowledge on the history, distribution and ecology of lynx. The relationship between lynx, its habitat and its prey are discussed in detail and the attributes of northern versus southern lynx populations are compared and contrasted. The authors discuss metapopulation and disturbance dynamics, habitat fragmentation and competition, the ecology of snowshoe hare, the historic and current distribution of lynx, the ecology of lynx in northern Canada and Alaska, Washington, Montana and Wyoming, ecological differences across the range of lynx including disturbance regimes and landscape patterns, climatic effects to lynx, and patterns of snowshoe hare and red squirrel abundance. The authors also provide insights into lynx ecology and management including habitat features, food habitats, prey population dynamics, dispersal and population dynamics, range-wide variation and human influences. Finally, the authors present a approach to research and management that would promote lynx conservation.</p> <p>This research is relevant to the project. Information provided in this document was considered throughout</p>

<b>Literature</b>
<p>the DEIS including the use of boreal and subalpine forest , the importance of snowshoe hare and red-squirrel, structural conditions characteristic of den and winter hare habitat, lynx movement and dispersal, mortality, competition with other predators, and suitable lynx habitat (pages 261 to 265). Further, information from this study, as well as more recent research has been incorporated into NRLMD, which established management direction to conserve and promote lynx recovery and was considered in the analysis of effects (DEIS p. 261 and 367). The Canada lynx analysis has been updated in the FEIS to incorporate additional information.</p>
<p><b>Squires, J. and L. Ruggiero. 1995. Winter movements of adult northern goshawks that nested in southcentral Wyoming. J. Raptor Research 29:5-9.</b></p> <p>Review: The topic of this paper is relevant to the project.</p> <p>Effects to northern goshawks from proposed actions are addressed in the wildlife report. Literature considered in the wildlife analysis includes:</p> <p>Samson, Fred B. 2006a. A conservation assessment of the northern goshawk, black-backed woodpeckers, flammulated owl, and pileated woodpecker in the Northern Region. U.S. Department of Agriculture, Forest Service.</p> <p>Samson, Fred B. 2006b. Habitat estimates for maintaining viable populations of the northern goshawk, black-backed woodpecker, flammulated owl, pileated woodpecker, American marten, and fisher. U.S. Department of Agriculture, Forest Service.</p> <p>Squires, J. R., and P. L. Kennedy. 2006. Northern goshawk ecology: an assessment of current knowledge and information needs for conservation management. <i>Studies in Avian Biology</i> 31: 8-62.</p> <p>United States Department of Agriculture, Forest Service 2009c. Northern Goshawk Northern Region Overview. Key Findings and Project Considerations. Available at: <a href="http://fsweb r1 fs fed.us/wildlife/wwfrp/TEsnew htm">http://fsweb r1 fs fed.us/wildlife/wwfrp/TEsnew htm</a>.</p> <p>This document was identified during scoping and again at the review of the DEIS.</p> <p>Goshawk nest site characteristics discussed on pages 291 to 293 of the DEIS are consistent with those described by the authors, as well as more recent research in western Montana (Clough 2000) .</p>
<p><b>Squires, L.F., J.A. Kolbe and N.J. DeCesare. 2006. Lynx Ecology in the Intermountain West. Rocky Mountain Research Station. Missoula, MT. 25 pp.</b></p> <p>Using radio telemetry data collected between 1998 and 2007, this paper documents winter and summer lynx habitat relationships. Results indicate that during winter, lynx preferentially forage in spruce-fir forests with high horizontal cover, abundant hares, deep snow and large diameter trees. It also found that lynx tend to avoid sparse, open forests and forest stands dominated by small diameter trees. Like winter, during the summer lynx selected habitat with high horizontal cover, although during the summer horizontal cover resulted from a high density of small diameter trees with shrub cover. This study also found that timber harvest and thinning clearly affected lynx distribution within their home range. Data collected documented denning habitat which included, north facing slopes, sites with large amounts of downed wood and high horizontal cover and in blowdown. Authors concluded that habitat features at the stand and landscape level need to be considered.</p> <p>Monitoring of summer and winter activity documented that snowshoe hare contributed to 69 percent of the kills and 96 percent of the biomass and that lynx depended exclusively on snowshoe hare during the winter. Red squirrels were the second most common prey. Existing research indicated that compacted snowmobile trails might allow coyotes access to high elevation habitat used by lynx and coyotes were studied near Seeley Lake, Montana, to assess the degree of coyote and lynx symmetry during winter. Results suggested that the overall influence of snowmobile trails on coyote movements and foraging success was minimal and it was unlikely that compacted snow trails increased competitive interactions between coyotes and lynx during winter.</p> <p>Research quantified how lynx traverse landscapes and while subadults travel the longest distances, adults also exhibited movement between home ranges.</p> <p><u>Review:</u> This research is relevant to the project and the information provided is consistent with that presented in the Stonewall DEIS/FEIS. Information from this study was used to describe winter foraging habitat preferences and the discussion of den habitat recognized the need provide coarse woody debris and the importance of stand structure. It was recognized that proposed thinning would reduce stand structure, lynx cover, winter hare and red-squirrel habitat. Stand level changes in habitat are discussed in the updated Canada lynx analysis in the threatened and endangered area of the wildlife section in chapter 3 of the FEIS. Information from this study related to selection of north-facing slopes for denning and effects to lynx movement have been considered in the updated analysis.</p> <p>The importance of snowshoe hare as the primary prey of lynx and red squirrel as alternate prey was</p>

Literature
<p>recognized and discussed in the DEIS and FEIS. Lynx movements were documented with GIS to produce a map that predicts suitable lynx habitat and rates available habitat on a continuum from low probability of use to high probability of use. Results show lynx documentation in the Stonewall project area. Results show project area lynx documentation and identify movement corridors between project LAU's and across the landscape. The Canada lynx effects analysis was updated between the DEIS and the FEIS to incorporate additional information.</p> <p><b>Squires, John R. 2009. Letter from John Squires to Carly Walker responding to questions concerning Canada Lynx. June 29, 2009.</b></p> <p><b>Review:</b> The author answered four questions including;</p> <ol style="list-style-type: none"> <li>1) <i>What is the importance of the Seeley Lake area to lynx, especially in regards to the Northern Rockies ?</i>– Lynx in western Montana possibly represent the most viable population in the United States and should be a primary focus of conservation planning. The areas surrounding Seeley Lake are central to the conservation and management of lynx in Montana and in the contiguous U.S. Lynx are restricted to high elevation spruce-fir forests, and our research indicates that lynx avoid very steep topography, and select areas with more rolling topography. These landscapes are often most impacted by forest management. <p><b>Review:</b> The importance of maintaining lynx habitat in the stonewall project area was recognized and an alternative was developed that reduced treatments, maintained more den and winter hare habitat and reduced effects to lynx movement. Proposed treatments are in compliance with NRLMD and are expected to promote the long-term sustainability of lynx.</p> </li> <li>2) <i>How have lynx persisted in Seeley Lake despite extensive timber harvesting and recreation? –</i> Lynx occupy a very narrow habitat niche and are highly specialized for hunting snowshoe hare in deep snow. During winter they preferentially use mature multi-layer forest. In summer they broaden their home ranges to include young regenerating forest. Lynx are very sensitive to forest management, especially thinning. Thinning reduces habitat quality for lynx and effects can last for several decades. While they are sensitive to forest management, they do persist in managed landscapes provided a mosaic of suitable habitat is available, including an abundance of un-thinned forest. Although substantial forest thinning has occurred in the Seeley Lake area, lynx have been able to use un-thinned habitats, although there is likely a threshold of thinning below which lynx will not be able to persist. Preliminary analysis of population viability suggest that lynx in the Seeley area may be declining, so concerns for maintaining available habitat does have scientific basis. We do not think that recreation at current levels is detrimental to lynx at this time and found snow compaction from winter recreation had a negligible effect. <p><b>Review:</b> The specialized habitat conditions and use of multi-story and young regenerating forest was recognized in the DEIS and FEIS. Effects of thinning, including a reduction in winter hare and den habitat was also recognized and an alternative was developed that reduced harvest and maintained greater levels of closed canopy forest. Proposed actions would provide a mosaic of habitat conditions and are in compliance with NRLMD.</p> </li> <li>3) <i>Does your work specifically address lynx population dynamics in relation to development densities. If not, is there information from your research that could be extrapolated to predict effects on lynx of different development densities? –</i> Our research did not occur in urbanized landscapes, but we have clues to potential impacts. Increased urbanization would raise the amount of thinned habitat around structures for fire prevention, may increase mortality through shooting, or reduce habitat through fragmentation. It is the authors opinion that increased urbanization around Seeley Lake would be detrimental to lynx. <p><b>Review:</b> This information is not relevant to the Stonewall project.</p> </li> <li>4) <i>How do lynx respond to increased road densities and habitat loss/fragmentation associated with increased development? –</i> We find no evidence that lynx avoid low volume, dirt roads in the Seeley Lake area either during winter (snowmobiling) or summer. Many of these roads are gated with only a few vehicles per season. Increased levels of road use could result in mortality due to road kill and lynx appear to avoid Highway 83. We do not know if this is due to traffic avoidance or to habitat characteristics along the highway. Habitat fragmentation has increased sharply in the Seeley Lake area due to natural fire and human causes. Consequently the Seeley area is disproportionately important due to its rolling topography and boreal forest cover and any efforts to slow habitat fragmentation would be beneficial to lynx conservation and management. <p><b>Review:</b> Effects of thinning on lynx were discussed in the DEIS, although the length of time treatment would reduce lynx habitat was underestimated. The lynx effects analysis has been updated in the FEIS to incorporate additional information and has been changed to more accurately</p> </li> </ol>

<b>Literature</b>
<p>reflect research by the author. Discussion of fragmentation and connectivity has also been expanded in the FEIS. The importance of effects of roads and snowmobile use discussed by the author are consistent with those discussed in the updated analysis.</p>
<p><b>Squires, J.R., N.J.DeCesare, L.E. Olson, J.A. Kolbe, M Hebblewhite and S.A. Parks. 2013. Combining resource selection and movement behavior to predict corridors for Canada lynx at their southern periphery. <i>Biological Conservation</i> 157 (2013) 187-195.</b></p> <p><b>Review:</b> This paper emphasizes the importance of maintaining connectivity between source populations of lynx in the north, with southern populations, which are at risk due to anthropogenic disturbances and climate change. Authors used telemetry data collected between 1998 and 2007 to model lynx movement corridors in the Northern Rocky Mountains. Their model indicated that lynx selected home ranges at mid-elevations with low surface roughness and high canopy cover. They found that connectivity between lynx habitat in Canada and the conterminous United States is facilitated by only a few putative corridors and that maintaining the integrity of these corridors is of primary importance to lynx conservation in the Northern Rockies. They evaluated winter and summer movements and found that winter corridors may best provide for local connectivity of neighboring breeding populations, whereas summer corridors facilitated long-distance dispersal, such as those from range core to periphery. Maps generated from this research show that the Stonewall project area is near the southern edge of primary north-south lynx movement corridor and that it contains patches of habitat capable of supporting lynx.</p> <p>While the DEIS recognized the need to maintain landscape linkages and discussed connectivity (p. 378), effects of thinning on landscape level movements were not discussed. This information, as well as effects of all proposed management on the corridors documented in this paper have been added to the FEIS.</p>
<p><b>USDA. 1998. Deer Creek Prescribed Burn Proposal, Effects on Neotropical Migratory Birds. October 13, 1998. Gallatin National Forest, Big Timber Ranger District.</b></p> <p><b>Review:</b> This document was identified during scoping and again at the review of the DEIS. It is a site specific document and the commenter provided no context for this citation's relevance to the Stonewall Vegetation Project. Effects of burning on migratory birds are discussed in the DEIS and FEIS.</p> <p><b>USDA. 1998. Deer Creeks Prescribed Burn Proposal and Predicted Effects on Upland Game birds. October 13, 1998. Gallatin National Forest, Big Timber Ranger District.</b></p> <p><b>Review:</b> The analysis document was identified during scoping and again at the review of the DEIS. It is a site specific document and the commenter provided no context for this citation's relevance to the Stonewall Vegetation Project. Effects of burning on birds, including upland gamebirds are discussed in the DEIS and FEIS.</p> <p><b>USDA. 1998. Deer Creeks Prescribed Burn Proposal and Predicted Effects on Deer, Elk and Antelope. October 13, 1998. Gallatin National Forest, Big Timber Ranger District.</b></p> <p><b>Review:</b> The analysis document was identified during scoping and again at the review of the DEIS. It is a site specific document and the commenter provided no context for this citation's relevance to the Stonewall Vegetation Project. Effects of burning on big game are discussed in the DEIS and FEIS.</p>
<p><b>USDA Forest Service. 2005a. "Sheep Creek Fire Salvage Project Final Environmental Impact Statement." Beaverhead-Deerlodge National Forest.</b></p> <p><b>Review:</b> The Sheep Creek Salvage FEIS site specific project analysis document was identified during scoping but could not be located. Comments provided at scoping regarding noxious weeds were reviewed. The anticipated effects of noxious weeds from proposed activities are analyzed and disclosed in the FEIS. This document was identified again at the review of the DEIS, however the document was not provided. The commenter provided no context from which to evaluate potential issues or project consistency.</p>
<p><b>USDA Forest Service. 2007. Sagebrush in western North America: habitats and species in jeopardy. Pacific Northwest Research Station. March, 2007</b></p> <p><b>Review:</b> This document is not site-specifically relevant to the Stonewall Vegetation project. The Stonewall Vegetation project analysis discusses effects on sagebrush communities and effected species. References considered for sagebrush include:</p> <p>Cornell Lab of Ornithology 2012 Birds of North America [online].</p> <p>Grove, A.J., C.L. Wambolt, and M.R. Frisina. 2005. Douglas-fir's effect on mountain big sagebrush wildlife habitats. <i>Wildl. Soc. Bull.</i> 33(1):74-80</p> <p>Paige, Christine and Sharon A. Ritter. 1999. Managing sagebrush habitats for bird communities. <i>Partners in Flight, Western Working Group.</i></p> <p>Van Dyke, F., and J.A. Darragh. 2006. Short and longer term effects of fire and herbivory on sagebrush communities in</p>

<b>Literature</b>
<p>South-Central Montana. Environmental Management Vol. 38, No. 3. Pp. 365-376.</p> <p>Van Dyke, F., and J.A Darragh. 2007. Short and long-term changes in elk use and forage production in sagebrush communities following prescribed burning.</p> <p>This document was identified during scoping and again at the review of the DEIS. This document was not site specific. Rationale for treatment of declining sagebrush habitat within the project area is described on page 256 of the DEIS, whereas effects to sagebrush communities from proposed actions can be found in the DEIS and FEIS.</p>
<p><b>USDI Fish and Wildlife Service. 2003 Range Map of the Canada Lynx in the Contiguous United States.</b></p> <p><u>Review:</u> This 2003 map documented the Stonewall project area as being utilized by both resident and dispersing lynx.</p> <p>This document was identified at the review of the DEIS. This information is relevant to the project. The DEIS recognized that the Stonewall project area was occupied core lynx habitat as well as designated critical habitat (DEIS p. 261). More detailed information on lynx documentation within the project area was acquired (John Squires personal communication 2013) and has been incorporated into the FEIS.</p>
<p><b>United States District Court. 2013. Case 9:12-cv-00045-DLC. District of Montana, Missoula Division. Nolan Salix: Cottonwood Environmental Law Center vs. USDA Forest Service. May 16, 2012. 42 pp.</b></p> <p><u>Review:</u> This document was identified at the review of the DEIS. This decision found that the Forest service failed to comply with the Endangered Species Act, by not reinitiating consultation when lynx critical habitat was designated on National Forest System Lands. While the Forest Service must now reinitiate consultation, the court did not enjoin any specific projects, as the plaintiffs did not demonstrate irreparable harm.</p> <p>Upon further consideration of additional information since release of the DEIS, the project analysis for lynx has been updated. The updated analysis resulted in a May effect – likely to adversely affect determination for lynx. The FS is conducting formal consultation with the United States Fish and Wildlife Service and the Biological Opinion will address lynx and lynx critical habitat.</p>
<p><b>Wright, V. 1992. Multi-scale analysis of flammulated owl habitat use: owl distribution, habitat management, and conservation. M.S. Thesis, University of Montana, Missoula.</b></p> <p><u>Review:</u> Information from this study was considered in the DEIS and project area information is based on landscape conditions and documented flammulated owl use. Effects to flammulated owl are addressed in the DEIS and FEIS.</p>
<p><b>Wright, V. 1996. Multi-scale analysis of flammulated owl habitat use: owl distribution, habitat management, and conservation. M.S. Thesis, University of Montana, Missoula.</b></p> <p><u>Review :</u> This document was identified during scoping and again at the review of the DEIS. Flammulated owl habitat is described on pages 284 to 285 of the DEIS and includes discussion of the fact that owls select for microhabitat features within the landscape context, as is pointed out by the author. A more detailed description of flammulated owl documentation in the vicinity of the Stonewall project area and implications to this research are presented in the FEIS.</p>