

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

BB-1. Northwest Connections	Comment #	Response
<div style="text-align: center;">  <p>Community. Conservation. Education. P.O.. Box 1309 Swan Valley, MT 59826 Ph.406.754.3185 Fax 406.754.3330 www.northwestconnections.org</p> <p>To the Swan Lake Ranger District:</p> <p style="text-align: center;">Hemlock/Elk Project</p> <p>Overall Comments/Concerns:</p> <ul style="list-style-type: none"> • Strongest concerns are related to wildlife impacts. • From a landscape level view, this general project area is very important from a wildlife standpoint, and many of the proposed treatment units provide very high wildlife habitat values, compounded by the fact that most adjacent sections are non-functional in terms of habitat for most species that traditionally use this area. <p>Many community members understand the importance of this general area for wildlife, and between SEC's acquisition of section 35 and the ecosystem approach to management on Coyote Forest, we <i>would</i> like to see the Forest Service demonstrate management practices the do not undermine what we (members of the</p> </div>	← 1	<p>Response to Comment #1: We appreciate the comment and strategic viewpoint of treatments of the lands in question. The Selected Action seeks to balance the site specific stand conditions and urban interface conditions that vary from one treatment unit to the next with the overall wildlife, fisheries, and other values that add to the complexity and value of the project area. We weighed the public input and concerns about neighboring landscape conditions in coming to our Selected Alternative. The Selected Alternative defers treatment in stands where stand health/species composition is such that the stands appear likely to remain relatively intact for 10 to 20 years and where it appears fuel loading is not a critical issue either due to stand conditions or stand location relative to homes or private property. We also weighed the existing conditions on private property and the immediate neighbors' opinions and situations relative to proposed treatments. There are active forest health issues and/or fuel loading issues in all stands originally proposed for treatment,</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

BB-1. Northwest Connections	Comment #	Response
<p>community) are trying to accomplish and protect in this area.</p> <ul style="list-style-type: none"> • We have seen a decline in sensitive forest carnivore species that rely on structurally complex and connected habitat (i.e. fisher, lynx, pine marten). Some of the last remaining functional habitat is in and around the proposed treatment areas. • We <i>feel</i> strongly that we could support many of the proposed treatments; however, due to the increases in development and loss of stand structure on adjacent sections, we feel that it is imperative from a wildlife standpoint to wait until adjacent clear-cuts regenerate to the point that they can provide some cover value for wildlife. • The west side of the Swan Valley, in general, contains more moist, 	<p style="text-align: center;">← 2</p>	<p>but by weighing the matrix of conditions described above, we have decided to defer 13 units as shown in the decision.</p> <p>In addition, as shown in the decision, we have decided to require forwarder yarding with in-woods processing on specific units. This design feature is a permutation of Alternative C and would reduce temporary road needed for harvest and would reduce some concerns discussed in the environmental analysis concerning noxious weed spread and soils affects. The use of required winter logging with specified snow depths was not selected primarily because, in recent history, we have not experienced consistent snow depth through the winter in this area to assure the desired effects. The project is designed to be primarily completed while the Hemlock/Elk Grizzly Bear Subunit is “open” from 2009 to 2011, a relatively brief period. The requirement for forwarder yarding is a more reliable means to achieve the reduced impacts described for those units that would have been winter logged in Alternative C.</p> <p>Also in response to comments such as yours and input during the summer field trip to the project area, the Selected Alternative uses several existing Plum Creek Roads through a road use permit to access units as described in the decision. This allows for less temporary road construction as described in detail in the decision. Further, using these access points, which are not open public roads, would increase wildlife security integrity.</p> <p>Response to Comment #2: Your comment is noted and deferment of Units 2, 3b, 5a, 6, 7, 14, 16, 18a, 18b, portions of Unit 23, Unit 24a, Unit 24b, and Unit 26 is in response to concerns such as those described in this comment, as well as to site specific conditions in and adjacent to the units. More specifically, the decision to defer treatment of these units also relates to our judgment that the individual stand conditions within these stands are such that they will not likely significantly deteriorate during the time it will take for re-growth of cover on adjacent private stands. Other stands remaining in the decision were felt to either have stand conditions (largely pine beetle in lodgepole dominated stands) that are currently seriously affecting stand health and that could not be deferred for a significant amount of time, and/or where the locations of the units and the prescriptions were not likely to measurably affect wildlife habitat values and yet where the treatments did have measurable benefits that went toward meeting the purpose and need of the project.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

BB-1. Northwest Connections	Comment #	Response
<p>complex, and diverse forest types than we see on the east side of the valley. While thinning from below may be appropriate treatments in mature ponderosa pine stands on the east side of the valley, the same type of treatment would compromise some of the most important habitat value we have left when applied to mature larch stands with old growth characteristics on the west side of the valley.</p> <ul style="list-style-type: none"> • We see a lot of illegal ORV use, especially in this part of the valley, and we are concerned that many of the new permanent and temporary roads purposed in this project will increase the impacts of these activities by compromising habitat security. • We feel that the Elk Creek Road should be permanently closed year-round from the <i>Elk</i> Point fork beyond. The roadbed was not constructed to handle public traffic. This is both a wildlife security and water quality issue. • Due to the success from past projects, we <i>would</i> like to see the bids for this sale fall under stewardship contracts. <p>Specific Comments on Treatment Units:</p>	<p style="text-align: center;">← 3</p> <p style="text-align: center;">← 4</p> <p style="text-align: center;">← 5</p>	<p>The final alternative strives to seek a balance of the various factors described in this comment. Overall, the Selected Alternative takes into account the varied stand characteristics described in the comment, while balancing fuel reduction, stand health, and appropriate use of forest products. The changes made to the Proposed Action seek to balance the specific stand, fuel, human occupancy, wildlife use, and fuel conditions within a landscape in a fashion that is consistent with our Forest Plan. The final decision also recognizes that there has been considerable timber harvest on private lands that is in varying stages of re-growth.</p> <p>Response to Comment #3: In response to comments such as yours and input during the summer field trip to the project area, the Selected Alternative uses several existing PCTC roads through a road use permit to access units as described in the decision. This allows for very little temporary road construction as described in detail in the decision. Further, using these access points, which are not open public roads, would increase wildlife security integrity. One aspect of deferring Units 18a, 18b, 19, the portion of Unit 23 immediately south of the Elk Creek Road, and Unit 24a, is that access from off the open Elk Creek Road will not occur. Though we feel that the potential for such illegal activity could have been adequately managed through a variety of techniques including temporary road obliteration, the Selected Alternative will intrinsically reduce the potential of illegal ORV use compared to the original proposed action.</p> <p>Response to Comment #4: Your comment is noted but it's beyond the scope of the action proposed by this project. Reconstruction of a large portion of the Elk Creek Road has occurred this summer and the road is seasonally closed during the hunting season; however, seasonal road closures for road protection due to wet roads is an action item we consider as a regular maintenance item.</p> <p>Response to Comment #5: The District will request the use of Stewardship Authority from our Regional Office on this sale. The use of the authority is granted on a case-by-case basis, and the District has been successful in previous requests for use of Stewardship Authority.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

BB-1. Northwest Connections	Comment #	Response
<ul style="list-style-type: none"> Contracting this work with Bud Moore and Coyote Forest fits with the projects purpose and need by providing wood products for local economics. <p>Units 5a, 5b, 7, 9, 10, & 15</p> <ul style="list-style-type: none"> We feel strongly that these stands of mature larch contain old growth characteristics with high wildlife habitat values and should be left alone for now. These stands are some of the last functional habitat remaining for specialized forest carnivore species. We have seen alarming declines in populations of lynx, fisher, and pine marten, and thinning these stands will compromise the important habitat values they provide to the ecosystem. <p>Unit 8</p> <ul style="list-style-type: none"> We agree with the decision to drop this unit from the project. This area provides a unique cover type for wildlife, while the soils are very unstable due to the large amount of spring activity. Reconstructing the road to get into this unit would be a mistake and we think this area needs more time to recover from previous logging activity. 	<p style="text-align: center;">← 8</p> <p style="text-align: center;">← 9</p>	<p>will remain surrounded by private property even with the passage of the Montana Legacy Project. Should stand conditions dramatically change in the future, we would re-evaluate our administrative access needs.</p> <p>The suggested option to work directly with Coyote Forest to remove commercial products would not be consistent with national policy to provide such products through competition. This policy exists because of the value and normally high competitive interest in commercial products. Additionally, the National Forest has thousands of miles of boundary adjoining private lands, often resulting in complex access issues. To the extent possible, we seek to secure public and administrative access for the administrative and recreational public use of the NFS land, but, in doing so, we strive not to create situations where adjoining private landowners have unique or special use of forest products.</p> <p>Response to Comment #8: Units 5a and 7 have been deferred from the proposal. The prescription to be used on Unit 5b will provide for wildlife benefits (See response to similar concern in Stevenson letter contained in the Response to Comments). Similarly, the prescriptions used in Units 9 and 15 address forest health conditions within the stands while retaining wildlife values. The analysis in the Wildlife Section of the EA does not conclude that. As proposed, these units would adversely affect lynx, fisher, or pine marten.</p> <p>Unit 10 is considered to be a stand more dominated by declining stand conditions, such as pine beetle and root rot, and is not primarily dominated by larch. Within this prescription, healthy trees will be reserved where they exist, but the overall stand health is rapidly declining. Temporary road access into the unit is eliminated through the combination of use of an existing PCTC road and forwarder logging.</p> <p>Response to Comment #9: Thank you for your comment. Unit 8 remains dropped from consideration under this decision.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

BB-1. Northwest Connections	Comment #	Response
<p>Unit 11</p> <ul style="list-style-type: none"> We recommend this unit be scaled back to a patchier non-uniform treatment that would leave more trees to maintain wildlife habitat and security. 	← 10	<p>Response to Comment #10: We will strive to maintain patches of regeneration where they exist, and the overall prescription will seek to maintain the healthiest trees in the stand. However, overall conditions in the stand will result in a Patch Seed Tree harvest with areas that will begin to regenerate.</p>
<p>Unit 12</p> <ul style="list-style-type: none"> We understand the argument to take some trees out in order to favor the larch; however, we feel the main problem with this stand is that it lacks woody debris on the ground . 	← 11	<p>Response to Comment #11: This stand is both within the suitable timber base and within the WUI. Thinning will enhance the growth of the larch. However, within the WUI, we seek to reduce the fuel loading left on the ground resulting from the thinning so as not to make fuel conditions worse. We will hand pile and burn slash created in this pre-commercial thinning, but will leave sufficient woody debris to meet project objectives. This will leave the stand in a better condition in this regard than exists currently.</p>
<p>Unit 14</p> <ul style="list-style-type: none"> We recommend that this unit be dropped. 	← 12	<p>Response to Comment #12: This unit has been dropped in the Selected Alternative.</p>
<p>Units 16-24 (Section 16)</p> <ul style="list-style-type: none"> This section contains a fairly large and well-developed pothole wetland complex that provides high value habitat for wildlife. All the purposed roads create a major habitat security issue within this section and may potentially allow illegal ORY access up Elk Creek. Clearcutting with reserves, even thinning from below to an extent, will compromise important habitat security in this sensitive area. This section contains a historically and culturally important foothills trail, though not officially maintained, that does still get used by local hikers and hunters that we feel should be preserved. If this section was in a different place in the valley, we could 	← 13	<p>Response to Comment #13: The Response to Comment #3 largely responds to the unit-specific concerns raised in this comment. Within Section 16, the following units are deferred from the Selected Alternative: 16, 18a, 18b, 19, the portion of Unit 23 adjoining Road #9591 on the south, Unit 24a, and Unit 24b. As described in the responses above, the Units retained in Section 23 largely treat stands dominated by lodgepole pine that is heavily infected with pine beetle (Units 20, 21, 22). In these stands, healthy non-lodgepole would be retained where they exist, but the extent of beetle infestation will still result in Clearcuts with Reserves or Seed Tree with Reserves even with this tree retention. It is extremely unlikely that the lodgepole within these stands will last even 10 more years, so a decision to defer these particular units would not be consistent with any element of the purpose and need for the project. Unit 23 is a lodgepole-dominated stand with less pine beetle, which is felt to have a good likelihood to be retained in a healthy condition for a longer period if thinned. Given the amount of lodgepole within the unit and the heavy presence of mountain pine beetle in nearby stands, the likelihood for thinning to reduce the potential for extensive mortality is high. With the alternative access that will be used to treat the units, in combination with forwarder skidding, it is felt that security concerns post harvest would be reduced. This combination of circumstances made it seem most prudent</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

BB-1. Northwest Connections	Comment #	Response
<p>support some types of treatments; however, due to the importance of this specific area to wildlife, and the existing conditions of adjacent sections, we recommend that this section be left alone for now.</p> <p>Units 25-28</p> <ul style="list-style-type: none"> • Unit 28 is a healthy forest stand and taking out all the lodgepole and then planting white pine and larch would do more damage than good. • The treatment units 25, 26, and 27 on the west end of section 22 will only cause more blow-down if opened up. Taking into consideration the adjacent lands, this stand should be left alone until the clearcut on section 21 regenerates to provide some cover value for wildlife and a wind block for the west edge of section 22. 	<p style="text-align: center;">← 14</p>	<p>to include Unit 23 as a Thin From Below in the Selected Alternative. Unit 17, which is north of Road #9591, is a thinning of a mixed species stand where the prescription and location of the stand are compatible with the purpose and need of the project while not being measurably detrimental to wildlife and fishery habitat within the section.</p> <p>Based on public input, the Foothills Trail, though no longer maintained by the Forest Service, will be protected to the extent that it will not be used as a forwarder trail and slash will not be placed on it.</p> <p>The nature of the stand conditions in the stands described above does not make it prudent to defer all treatment in Section 16. The area does have many important resource considerations that have led to the alteration of the Proposed Action described in this decision. However, deferring treatment in all the stands is not necessary (as in Unit 17) nor will it result in the preservation of the existing condition (as in Units 20, 21, 22 and 23). The Proposed Action does reduce the extent of treatment and the extent of temporary road by the combination of actions described above and in the decision. We share your concern for the resource values in Section 16 and feel that the decision appropriately balances action and deferment.</p> <p>Response to Comment #14: In the Selected Alternative, Unit 28 is a Thin From Below that will retain a large percentage of the stand while targeting some pine beetle and co-dominant trees in the stand. The treatment will not require regeneration as a healthy stand will be retained.</p> <p>Unit 26 will be deferred. This unit was a Non-Commercial Thinning of pole-sized lodgepole. The smaller lodgepole are generally not at risk from pine beetle and, though the treatment was designed to reduce canopy density to reduce crown fire potential, the possibility of blowdown in this stand of small lodgepole might offset the potential benefit of increased crown spacing. Conversely, the current conditions of the stand are such that it is not likely to be hard hit by pine beetle. That fact, coupled with the distance of the unit from homes to the north and east, made it seem reasonable to drop the unit since its primary intent was fuel reduction. Unit 25 was refined in the final alternative to show two patches within the stand that are heavily beetle infested. This stand contains larger lodgepole pine that are susceptible to pine beetle and that are currently being heavily hit. The prescription will be to take out the infected lodgepole and leave all</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
 Appendix 5 – Response to Comments Received on the Environmental Assessment

BB-1. Northwest Connections	Comment #	Response
<p>We want to thank the Swan Lake Ranger District for taking the time to conduct the field trips into these areas as well as engaging the public and various organizations in the dialogue concerning the various aspects this project.</p> <p>Sincerely,</p> <p>Northwest Connections</p>		<p>other healthy trees. This will result in two small Patch Clearcuts that will need to be reforested. Leaving the stands untreated would likely result in more trees dying within the next few years without utilization or reduction of the fuels they create. The interior location and small size of these Patch Cuts makes it unlikely that they would lead to significant accelerated blowdown. Unit 27 is a 3-acre unit in the same situation. The unit is currently in such a deteriorated condition that it provides little cover value, but it is in the suitable timber base and the dead and dying lodgepole within it could be utilized. Further, the stand started toward a more healthy condition with the planting treatment recommended.</p> <p>Thank you for the comment. Site specific input such as what you have provided and the input we received during the field trips have helped to shape the final decision on this project. The field trip and public comments relative to potential use of alternative existing access roads led to a number of important features identified in the Selected Alternative.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter # C-1 – Darryl Hastings	Comment #	Response
<p>August 28,2008</p> <p>Darryl Hastings P.O. Box 1275 Condon, Montana 59826</p> <p>Mr. Steve Brady, District Ranger Hemlock Elk Project Swan Lake Ranger District 200 Ranger Station Road Bigfork, MT 59911</p> <p>Dear Steve,</p> <p>Since I last met with you in Condon, I have received the Environmental Assessment for the Hemlock Elk Project. As I indicated then, I am restating my objection to Resource Enhancement Project #3 (Road #9767 at Cold Creek Drainage) to "remove native timber Bridge abutments and fill from old abandoned bridge to stabilize stream banks and reduce erosion." Road is closed year-round."</p> <p>At the meeting, you told me that you yourself had not been at that site, but that your hydrologist had recommended this action. I told you that that would just be spending funds that could better be used elsewhere, that the timbers were in very good shape and would last for decades, that there was no erosion either upstream or downstream because of the straight run of the stream through this area and because of the vegetation growing on either side of the timber abutments.</p> <p>Your carrying out of this project will also result in a lot of unwanted materials falling into the stream and affecting spawning fish, and in destroying a large area around these abutments as you move your heavy equipment around. It will also greatly disturb the wildlife in an area that does not need to be disturbed.</p>	<p>←1</p>	<p>Response to Comment #1: Thank you for your comment regarding the removal of the untreated log abutments at the abandoned stream crossing of Road #9767. Since our discussion in Condon and with your letter as a reminder, I visited the site, and conferred with various specialists. When visiting the site, I found the near side (north side) of the crossing is indeed in good condition at this time, with a small portion considered an encroachment of the ordinary high water flow of Cold Creek. The top most log is exhibiting a half inch or so of rot, but is generally fairly sound. Both abutments are within the natural floodplain, which puts the protruding material at risk of washing down through bull trout habitat a possibility. This equals approximately 140 tons of sediment that can be avoided. The far side (south) bridge support has already started to undercut, with material missing between the bottom log and the streambed. The most convincing aspect to removing this and other similar structures is the engineering aspect. Our Engineering Staff has informed me that the existing abutments could not be reused to meet safety standards and current environmental standards (we no longer build native material abutments within the flood plain) and would have to be removed in order to rebuild the stream crossing whenever the road was to be used in the future.</p> <p>Other restoration projects of this type have occurred over recent years throughout the Swan and monitored during and after the removal. Those on-site during these projects assured me that very little sediment entered into the stream course; and within a few years, the sites were re-stabilized with vegetation.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
 Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter # C-1 – Darryl Hastings	Comment #	Response
<p>I have personally been to this site three times in the last month. I disagree with your hydrologist, and I would again suggest that you personally visit this site.</p> <p>Sincerely,  Darryl Hastings</p>		<p>After having visited this site, I can see why it appears to not be an issue at this time. The dilemma is that while these native timber abutments remain, they will continue to rot more over time and could wash out. Given that we would not be able to re-use the abutments in the future and would have to remove them anyway when and if the crossing was reconstructed, the most prudent course does seem to take them out now under controlled conditions rather than to leave them subject to further deterioration and possible washout in a flood or other high water event.</p> <p>Though this decision would authorize this project, actual removal of the abutments will depend on funding available to do the work. We will seek Stewardship Authority for this project, but it remains to be seen how far the value of the wood products on the project will go in financing the resource enhancement projects listed. The value will depend on the market conditions at the time of sale and many other conditions.</p> <p>Again, I appreciate your site specific comment and interest in this project.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter # C-2 – Chantel Thornsberry	Comment #	Response
<p>Steve Brady,</p> <p>I appreciate the opportunity to review the Hemlock Elk Project. Given the short period of time I had in which to review the book, I did not have the time to go over every detail, but I did read a majority of it. I have a few comments regarding the project..</p> <p>I fully agree with creating healthy forests by removing diseased trees and shrubs and for wildfire management. I have a difficult time, however, understanding why such a large sum of money and time will be spent clearing perfectly good trees just because they aren't native. I also think that disturbing the land will open up other problems, such as weeds. I assume that people who are much more educated in these areas than myself have considered these points.</p> <p>It is my understanding that recreational access to these lands will not be affected. I can't stress enough how important that is. Those of us living in this area should be able to access these lands at all times, even during the very lengthy time frame proposed for this project. While on the topic of recreational access, why not create, or at least leave the new roads constructed during the project, open to ATV access, as long as they aren't in the wilderness area. I see the plan proposes to reclaim those roads, making ATV access more challenging. I think if you give people more designated places to ride, they are significantly less likely to ride where you don't want them to. ATVs give young (okay, and older) people something positive to do rather than get into trouble or sit in front of video games.</p> <p>One concern I have is section 9767. It is not clear to me what is planned for the bridges under section 2-9. At any rate, bridges should be maintained, thus ensuring access.</p> <p>Finally, what will happen if funding runs out in the midst of this project?</p>	<p style="text-align: center;">←1</p> <p style="text-align: center;">←2</p> <p style="text-align: center;">←3</p> <p style="text-align: center;">←4</p> <p style="text-align: center;">←5</p>	<p>Response to Comment #1: Thank you for taking the time to review and comment on the project.</p> <p>Response to Comment #2: The trees in the project area are native to the area. Some trees targeted for removal are for forest health reasons and to recover their value for wood products. Lodgepole pine trees, which are being attacked by mountain pine beetle, are an example of this. In other stands Thinning from Below of various tree species will be conducted to reduce ladder fuels into the crown canopy and to open crown spacing. This is done both for forest health in some mature stands and/or stands to reduce fuel loadings in other stands.</p> <p>Response to Comment #3: Recreational access on or to the National Forest will not change from the current situation. New ATV access will not be authorized under this decision. The project is within the Hemlock Elk Grizzly Bear Management Subunit, which is a part of the Northern Continental Divide Ecosystem, where grizzly bears are a threatened species. Long-standing agreements among the Forest Service, MT Department of Natural Resources, PCTC, and the USFWS limit motorized ATV use. Under Forest Service policy and regulation, travel with ATV's or other motorized vehicles on NFS lands t is limited to specifically authorized routes. This project does not change regulations in regard to ATV use and will neither increase nor decrease where such recreational activities can legally occur.</p> <p>Response to Comment #4: The bridge discussed on Road #9767 was an old native timber bridge that had been removed many years ago. It is not currently in place. No existing bridges are proposed for removal.</p> <p>Response to Comment #5: The project will be implemented through a timber sale awarded through a competitive bid process. The work done is</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
 Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter # C-2 – Chantel Thornsberry	Comment #	Response
<p>Sincerely, Chantel Thornsberry</p>		<p>largely financed by the value of wood products included in the project. If the project does not sell, none of the proposed work would occur through that means. If the project was to sell, but the purchaser was unable to complete it, the contract has clauses to default the contract and utilize bonds, which the contractor must post, to complete any unfinished work. If a Stewardship Contract is used, only those resource enhancement projects hat can be financed by the value of the timber would begin. Grants, directly appropriated funding, or volunteer work can also be used to complete resource enhancement projects as separate contracts if the timber values associated with the project cannot finance them all.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter # C-3 – Bill and Jean Moore		Response
<p>August 27, 2008</p> <p>Bill & Jean Moore PO Box 977 Condon, MT 59826</p> <p>Steve Brady, District Ranger Hemlock Elk Project Swan Lake Ranger District 200 Ranger Station Road Bigfork, MT 59911</p> <p>Steve,</p> <p>The following are our comments regarding the Hemlock Elk Project as outlined in your environmental assessment.</p> <p>We are generally supportive of projects of this nature and specifically encourage well thought out timber harvest. As such we do not support option A as we welcome management actions that enhance ecosystems and allow for renewable harvest.</p> <p>We do have some specific suggestions:</p> <p>Unit # 2. This salvage action is common to all 3 alternatives. This is a very small area and the # of trees removed is insignificant. Some salvage has already occurred through a low impact skit trail to neighboring property. We suggest allowing the neighboring landowner to keep an eye on any damage and take it out for firewood or lumber as needed. I would be surprised if this was 5 trees per year. Perhaps an interface between the Swan Ecosystem Center’s Land & Forest Steward and the USFS could be encouraged to oversee this parcel. Pursuant to the above the Private Lands Easement and associated .2 miles of road construction would not need to be developed. If the easement is a desirable thing to have We’d treat it as a separate issue and work with the Elk Creek Conservation Area Management Group on it.</p> <p>Another area of concern for us is section 16 along Elk Creek. This is an important game corridor across the Elk Creek Bottom for both big game and</p>	<p style="text-align: center;">←1</p> <p style="text-align: center;">←2</p> <p style="text-align: center;">←3</p>	<p style="text-align: center;">Response</p> <p>Response to Comment #1: Thank you for the comment. The Selected Alternative is a combination of elements of Alternatives A, B, C, and D.</p> <p>Response to Comment #2: Unit 2 has been dropped from the proposal. As discussed in the reply to Northwest Connections (Response to Comment #7 in that letter), dealing directly with the neighboring land owner for direct removal of the commercial products would not be consistent with Forest Service policies in that regard.</p> <p>Development of the 0.2 miles of road through the Swan Community Forest would not be necessary with the unit being dropped. The Forest Service will pursue general public non-motorized recreational access to the parcel of National Forest System land where this unit lays, using the same route proposed for the road. Currently, there is no public access to this parcel as it is surrounded by private land.</p> <p>Response to Comment #3: The Selected Alternative in this decision generally follows your recommendations. Within Section 16, only Units 17,</p>

Hemlock Elk Fuels Reduction and Forest Health Environmental Assessment
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter # C-3 – Bill and Jean Moore		Response
<p>forest carnivores. (Not to mention Bull Trout) Because of this, we do not support either Alternative B or C but could partially embrace Alternative D. However we would suggest using access through section 21 rather than building and then decommissioning temporary roads for Units 21, 22, 23, & 24B. Good existing roads (albeit Plum Creek Roads) put you within easy reach for equipment. We would further suggest using in woods processing with a forwarder and minimize large slash piles at your landings.</p> <p>An important factor to consider on this project is the recently announced Montana Legacy Project. For example the Plum Creek road access I mentioned to section 21 in the above paragraph “may” actually belong to USFS by the time the Hemlock Elk Project starts action in that area. The impact the Montana Legacy Project will have on future land and forest management in the Swan Valley is hard to assess. However the time to be thinking and implementing the new changes is now - rather than later.</p> <p>We would suggest formation of an oversight group from:</p> <p style="padding-left: 40px;">United States Forest Service Montana State D.N.R.C. The Nature Conservancy The Trust for Public Lands Swan Ecosystem Center</p> <p>Such a group would monitor the progress of and make changes to the Hemlock Elk Project as related to the unfolding of the Montana Legacy Project. Let’s make sure the Hemlock Elk Project serves as a beacon to jump start future management projects in a Swan Valley that is in the process of rapid and broad sweeping changes.</p> <p>Yours Truly,</p> <p>Bill & Jean Moore</p>	←4	<p>20, 21, 22, and a portion of Unit 23 are retained. The Forest Service would use in-woods processing with a forwarder and would seek chip utilization at landings to the degree possible. Also, the Forest Service will seek Road Use Permits to use existing PCTC roads in Section 21 to access Units 21, 22, and 23. We will use a Road Use Permit from PCTC to use an existing road in Section 17 to access Unit 20 and avoid creating any access off Road #9591. This combination of access and logging system will significantly reduce the amount of temporary road needed.</p> <p>Response to Comment #4: Though the Montana Legacy Project is not finalized at this time, its consideration, coupled with suggestions such as yours, is one reason we are requesting Road Use Permits from PCTC. Plum Creek does coordinate such requests with the partners in the Montana Legacy Project, such as The Nature Conservancy and the Trust for Public Land.</p> <p>The general coordination of future land management in the Swan Valley, should the Montana Legacy Project come to pass, is ongoing with the groups you mention. Though this large-scale land transaction is beyond the scope of the Hemlock Elk Project, its consideration does influence our inclination toward use of Road Use Permits on the project as described in the decision.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Public Comments Received on the Environmental Assessment

Letter C-4. Vicki Moore		Response
<p>Vicki Moore Coyote Forest Management P.O. Box 1070 Condon, MT 59826 Tel. (406) 754-2473 Email: owel.moore@free.fr</p> <p>August 28, 2008</p> <p>Steve Brady, District Ranger Hemlock Elk Project Swan Lake Ranger District 200 Ranger Station Road Bigfork, MT 59911</p> <p>Steve,</p> <p>Although I am not a permanent resident in the Swan, I am closely involved with Coyote Forest, the 80 acres owned by my father, Bud Moore. I am therefore submitting my comments on the Hemlock/Elk Project.</p> <p>I've read the Environmental Assessment (EA) with great interest and have several comments and suggestions. 1) I will briefly explain why I favor Alternative D over the other three options, 2) I will propose some modifications to Alternative D that I feel will better guarantee ecosystem integrity, 3) I will comment more specifically on Project Units 1 and 2 adjacent to my father's 80 acres, and 4) I will make some broader comments on the Hemlock/Elk Project as a whole.</p> <p>First of all, however, I congratulate you and your team on the EA. It's good to see that the Upper Swan Valley Landscape Assessment has served as a major supporting document, and I was pleased that soils were given their rightful importance for their key role in maintaining forest ecosystem health (Bravo to your two soil experts, Tricia Burgoyne and Mark Vander Meer for their analyses). Your monitoring program looks solid and shows long-term commitment. I also fully support the Resource Enhancement Projects and do hope that the necessary funding will be made available to carry them out.</p> <p>In my comments below, I will refer to page numbers in your EA to support my arguments; however, to shorten my text, I will not repeat the passages from your document.</p>	<p style="text-align: center;">←1</p> <p style="text-align: center;">←2</p>	<p>Response to Comment #1: Thank you for taking the time to comment. Many comments, such as yours, have helped shape the Selected Alternative shown in this decision. That Selected Action is a combination of elements of all the alternatives.</p> <p>Response to Comment #2: Thank you for your comment.</p>

Hemlock Elk Fuels Reduction and Forest Health Environmental Assessment
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter C-4. Vicki Moore		Response
<p><u>Point 1: Choice of Alternative</u></p> <p>Alternative D has my support with the modifications mentioned below in Point 2. At Coyote Forest, we believe in the principle of a working forest that plays a part in the local economy. However, we place another principle first: do no harm to the natural systems and maintain the integrity of a healthy forest and its constituent parts, connections and processes. These ecosystem management principles are the basis for our own Management Plan on our 80 acres at Coyote Forest (a copy of our Plan was sent to the Flathead National Forest but we can also provide you with a CDRom version if you think it would help us coordinate our efforts.)</p> <p>Alternatives B and C do not meet with my approval due to the clearcut treatments they propose. Your EA shows that 6,341 acres in the Hemlock/Elk project area have already been clearcut by PCTC (p. 3-5) and 1,278 acres have been sold by PCTC to private owners thereby incurring high potential for deforestation. The total non-forested area in the Project is currently 7,403 acres or 20% (p. 3-43). In addition, 2,378 acres of forested land (8%) have trees with a DBH <5". Connectivity may already be suffering in the area (especially given the checkerboard ownership, pointed out in the EA). Clearcutting and deforestation in the Swan (possibly compounded by global warming) seems to be drying the valley out (Bud Moore's personal observations). The existing forest canopy needs to remain intact.</p> <p>Alternative D avoids clearcut treatment and therefore:</p> <ul style="list-style-type: none"> • maintains forest canopy, • reduces risk of windthrow (p. 3-58), • minimizes impact on grizzly bear, fisher and lynx habitat (pp. 3-182, 3-204, 3-168), • better maintains thermal and hiding cover generally (p. 3-172), • would have less extreme effects on watershed and less risk for water owellia (p. 3-90), • provides old growth recruitment opportunities (p. 3-193), and • reduces the risk of infestation for most noxious weed (pp. 3-65, 3-70, 3-72). 	<p>←3</p>	<p>Response to Comment #3: The Selected Alternative is described in detail in this DN and displayed on the Selected Alternative Map (Map 2). Many elements of Alternative D were used, but so were elements of Alternatives A, B, and C. The Selected Alternative defers 13 units, which were in the original Proposed Action. Units dropped are: 2, 3b, 5a, 6, 7, 14, 16, 18a, 18b, 19, portions of 23, 24a, 24b, and 26. Under the Selected Alternative, approximately 498 acres are treated, compared to 663 acres under Alternative D, and 739 acres under Alternatives B and C. Temporary road needed in the Selected Alternative is about 1.3 miles. Alternative D contains about 4.5 miles of temporary road. Prescriptions, road access, temporary road needs, and yarding systems have been modified based on public input and the ID Team's analysis of alternative affects. The Selected Alternative map and accompanying tables provide the easiest way to see how the Selected Alternative is constructed.</p> <p>The Swan Lake Ranger District has both a hard copy and CD Rom version of the Coyote Forest Management Plan. These documents and our conversations with Mr. Moore have helped inform us of the Coyote Forest Management Plan's intent. Though the scale of lands managed through our Flathead Forest Plan makes for some differences in approach, we have found there to be a high degree of consistency in approach. We believe that the Selected Alternative is very consistent with our Forest Plan, and the treatments prescribed will be compatible with the role the Coyote Forest plays in the ecosystem.</p> <p>Some elements of Alternative C have been retained in the Selected Alternative. The prescriptions in stands with a high percentage of lodgepole pine, which are currently experiencing mountain pine beetle infestation (and in some cases various insects and diseases in other species), are retained (as in Alternatives B and C) as Clearcuts with Reserves, or Seed Trees with Reserves. In some areas within these stands, significant numbers of reserve trees (generally healthy larch, Douglas-fir, all hardwoods and other species) can and will be retained creating a very mosaic type of harvest with patches of reserve trees. However, the nature of these type stands is such that removal of the targeted trees will create openings that will be regenerated. Other stands where Clearcut with Reserves or Seed Tree with Reserves will be used (such as Units 20, 21, and 22) are more dominated by lodgepole, which is very heavily infected with mountain pine beetle, and the prescriptions, while retaining the healthy trees available, will result in most of the area requiring regeneration. It is</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Public Comments Received on the Environmental Assessment

Letter C-4. Vicki Moore		Response
<p><u>Point 2: Proposed changes to Alternative D</u></p> <p>I propose the following changes to Alternative D.</p> <p>Apply the winter logging principle proposed for Alternative C to Alternative D. Your stated objective for winter harvesting is to abate the – very justified – risk of spreading noxious weeds from adjacent infestations (p. 2-14). Why not add this advantage to Alternative D as suggested in the EA on page 3-79? In addition, winter harvesting would virtually guarantee no disturbance for the endangered grizzly (pp. 2-24, 2-25), would further reduce risk to water owellia (pp. 3-90, 3-92) and would considerably reduce soil compaction (pp. 2-26, 3-13, 3-15). Since deer and elk winter elsewhere in the valley, winter harvesting would avoid any unnatural displacement of these game animals (p. 3-224). The general adverse impact of winter logging would be much less than summer logging (p. 3-20).</p> <p>1. Change the logging technique from whole tree yarding and excavator piling/burning to in-forest, cut-to-length logging with a</p>	<p style="text-align: center;">←4</p> <p style="text-align: center;">←5</p>	<p>highly unlikely that the component of these stands targeted for removal will hold together until a future entry into the area. Deferring these types of stands would not serve to utilize the wood fiber within them, would not move the stands toward healthier conditions, and would add to the dead fuel load. The stands deferred under the Selected Alternative are expected to largely maintain their integrity until adjacent private stands grow sufficiently to provide cover and other habitat needs.</p> <p>The environmental affects of these prescriptions have been analyzed in the EA and found not to have significant detrimental effects. The Selected Alternative uses different existing haul roads with reduced temporary road construction, which will reduce potential for disruption of wildlife security and will reduce the amount of ground disturbance that could lead to noxious weed spread. The Selected Alternative will leave hiding and thermal cover in those stands most likely to maintain their character until adjacent harvested lands recover and has less overall impact than Alternative D.</p> <p>Response to Comment #4: The winter logging feature was considered as a requirement for the Selected Alternative. However, with the exception of last winter, we have not, in recent years, experienced sufficient consistent snow depths and/or frozen ground in this part of the Swan Valley to reliably provide the beneficial affects normally attributed to winter logging. We will require forwarder yarding on all units originally considered for winter logging in Alternative C (as well as require forwarder yarding on some additional units as shown in the unit summary in the decision.) The equipment used in forwarder yarding, especially on relatively gentle ground should result in less soil disturbance than conventional skidding and would allow purchaser flexibility in scheduling operations while achieving some of the desirable features of winter logging. This approach, coupled with use of several existing PCTC roads will significantly reduce the need for temporary road construction with reduced soil disturbance and reduced potential for weed spread.</p> <p>Summer harvest activities will be consistent with the SVGBCA, which makes specific provision to allow for summer management activities on a rotational basis from bear subunit to bear subunit. The Hemlock Elk Grizzly Bear Subunit will be “open” to allow for such activities from 2009 to 2011.</p> <p>Response to Comment #5: The Selected Alternative does require this approach on many of the harvest units, where soil nutrient or previous soil</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Public Comments Received on the Environmental Assessment

Letter C-4. Vicki Moore		Response
<ul style="list-style-type: none"> • The adjacent PCTC section to the West has been heavily logged and provides very little hiding/thermal cover, • Your own objectives for MA 12, which includes Units 1 and 2, are “to enhance vegetation, wildlife diversity and fisheries” (Map 3-1). <p>Your definition of “thin from below-commercial” states that intermediate and suppressed trees would be removed first. This isn’t logical for Unit 1 where most removals should occur in the (co)dominant level (the understory is quite sparse). This partial over-story removal will stimulate the growth of the intermediate levels, which will enhance browse, hiding cover and prey base, including for grizzly, marten and lynx.</p> <p>Although much of the dominant Lodgepole Pine in the stand has been affected by mountain pine beetle or is in decline, some of them are healthy and vigorous. I advocate leaving the healthy LPP – I do not advocate the simplistic treatment of removing all LPP. We shouldn’t forget that mountain pine beetle is endemic in the Swan; there is no need to panic (pp. 3-47, 3-59).</p> <p>In addition, this Unit has good potential for snag retention (albeit LLP), and snags are decreasing in the Swan. Larger amounts of down woody debris could also be emphasized here (25 tons). Although this Unit is included in the WUI, it is bordered by a major clearcut to the West, a pond to the North, the Swan River to the East and the length of our property to the South. Leaving large amounts of snags and debris would suit us just fine at Coyote Forest.</p> <p>We would welcome the chance to manage Unit 1 with the Flathead National Forest and/or to work out the detailed specifics together (tree marking, flagging, etc.). In fact, our own Management Plan lists this cooperation as a desired project because we see the potential of extending our own ecosystem management principles into the 80 Forest Service acres to our North.</p>	<p style="text-align: center;">←9</p> <p style="text-align: center;">←10</p> <p style="text-align: center;">←11</p>	<p>Response to Comment #9: The prescription for this unit will largely focus on pine beetle and would retain healthy lodgepole. The status of mountain pine beetle is highly variable in the Swan. As many stands of lodgepole pine in the Swan reach 100 years or more in age, we see increased mortality from mountain pine beetle. Units 20 and 21 in this project are examples of this. Dramatically increased pine activity is evident in areas of the Swan, such as in the Clearwater/Swan Divide, where many lodgepole pine stands are experiencing 60 to 80 percent or more infestation and mortality. Though each stand needs careful consideration, there is need to be aware of the ongoing and increasingly extensive mortality in the Swan Valley from mountain pine beetle.</p> <p>Response to Comment #9: Sufficient snags and down woody debris will be retained to meet Forest Plan standards in this project.</p> <p>Response to Comment #10: Please see responses to Bill Moore and Northwest Connections regarding this suggestion. The National Forests have thousands of miles of boundaries that adjoin thousands of private owners. For consistency and fairness in the management of public lands, the National Forests do not enter into exclusive management agreements with our adjoining neighbors to manage the portions of NFS lands that adjoin their private property. However, we do seek to work with neighbors and to be aware of the goals that private land owners have for their lands.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
 Appendix 5 – Response to Public Comments Received on the Environmental Assessment

Letter C-4. Vicki Moore		Response
<p>program may allow you to re-assess this risk.</p> <p>3. There is an excellent opportunity here to showcase collaboration between the Flathead National Forest, the Community Forest, the Salish/Kootenai Confederated Tribes, small private landowners, The Nature Conservancy and Trust for Public Lands for a more landscape-based approach to sustainable forestry with the Flathead National Forest in a leadership position.</p> <p>So, once again, congratulations on a well-done Environmental Assessment! Coyote Forest is looking forward to our continued collaboration.</p> <p>Vicki Moore</p>	<p>←15</p>	<p>Plan define the WUI for the Swan Valley in general and in the project area in particular. The WUI areas are refined by the counties periodically, but are largely based on non-industrial forest private lands with the actual WUI boundaries drawn (with input from the local Fire Departments and agencies) and on the basis of existing residences and structures within those private lands. Depending on the plan, WUI zones can extend up to a mile or more from what the county actually considers the interface. As the Montana Legacy Project comes to be, it is probable that the counties may re-evaluate the WUI boundaries, but the boundaries are already more influenced by private land infrastructure than by PCTC industrial land holdings.</p> <p>Response to Comment #15: Though the Montana Legacy Project is still evolving, its consideration was one influence that lead us to consider use of temporary road permits from PCTC lands. In the course of development of this project we have worked with the Tribe, the Community Forest, many individual neighbors, and have (and will continue to) coordinated with The Nature Conservancy, PCTC, and Trust for Public Lands on transportation needs and a host of other issues.</p> <p>Thank you for your comments. Your perspectives and the others we received, either through letters, direct communication, or field trips have helped shape the Selected Alternative.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter C-5. Bud Moore	Comment #	Resource Area/Response
<p>September 5, 2008</p> <p>Steve Brady, District Ranger Hemlock Elk Project Swan Lake Ranger District 200 Ranger Station Road Bigfork, MT 59911</p> <p>Good Morning Steve,</p> <p>My comments on the Hemlock Elk Environmental Assessment follow. I support the letters you have already likely received from Vicki Moore, my daughter, and Bill Moore, my son. We had considered a coordinated reply but life's adventures scattered us so we couldn't come together. We all support Alternative D with various modifications, in my case because it is less intrusive to natural ecosystems, and threatened, endangered or sensitive species.</p> <p>My comments during the scoping phase remain my greatest concern. That is protect natural barriers that prevent motorized access to Elk Creek watershed and to prevent degradation of hiding cover, thermal cover, and migration patterns of Projects 1 and 2, adjoining Coyote Forest.</p> <p>I favor Alternative D as explained above but remain concerned about boxing the responsible official into a range of alternatives, methods, models, guidelines, thinnings, prescriptions, tree harvests, systems, standards. In the broad sense, the</p>	<p style="text-align: center;">←1</p> <p style="text-align: center;">←2</p> <p style="text-align: center;">←3</p>	<p>Response to Comment #1: Please see the responses to Bill Moore and Vicki Moore relative to their specific comments. The Selected Alternative you see in the decision is a combination of all the alternatives, which results in dropping 13 units compared to the original Proposed Action, modifies some prescriptions as shown in the decision, and uses existing roads through Road Use Permits on PCTC lands to significantly reduce temporary road construction needs. Compared to Alternative D, the Selected Alternative proposes harvest on about 498 acres compared to 663 acres in Alternative D and would require about 1.3 miles of temporary road compared to 4.5 miles under Alternative D. The Selected Alternative map (Map 2) attached with the decision and the units in the decision likely provide the easiest way to see the details of the final decision.</p> <p>Response to Comment #2: Your comment (and other similar or related comments), as well as the ID Team's interactions and field work since our field trip, have led to several changes from the Proposed Action to the Selected Alternative. In the Selected Alternative, we have decided that those units south of the Elk Creek Road in Section 16 could be deferred because the stand conditions are such that they are likely to remain largely intact as stands while additional recovery goes on in nearby cut-over private lands. Further, the remaining stands in Section 16 can be accessed from existing roads on PCTC lands through Road Use Permits. This, in combination with forwarder yarding requirements, will significantly reduce the creation of access to Elk Creek.</p> <p>Response to Comment #3: As described above, the actual Selected Alternative is a mix of all the alternatives. The decision maker is not constrained in selection of the final alternative to picking solely aspects on</p>

Hemlock Elk Fuels Reduction and Forest Health Environmental Assessment
Appendix ?? – Response to Comments

above terms will do for communication such as this EA but if applied rigidly will fall short of meeting the complex needs of the Hemlock Elk Project. Guides, prescriptions, etc. can help but not replace the leadership and flexibility of a responsible official with an ecological feeling for the values and ecosystem integrity of place. And I am convinced that we have several of those competent land stewards available on the Flathead National Forest. Also, in application of Alternative D, if you could find some cooperative process to work together in Project 2, Coyote Forest could do it and save you constructing a road in Section 35.

Thanks much for recognizing and formally including the too often overlooked views and experience of people with long tenure of work and deep understanding of the place. Also your inclusion as a basic reference, the Upper Swan Valley Landscape Assessment, prepared by the Swan Ecosystem Management and Learning Center, demonstrated a thorough review of quality information available for creating this EA. That document has potential to bond the Forest Service closer to the communities involved.

Though a bit overwhelmed by the volume, I appreciate the backup you assembled to support the details and management direction of the Environmental Assessment, especially exposing the shortcomings of whole-tree yarding and burning. So, I'm going to use some of your disclosures to support our Ecosystem Plan at our new place, McFarland Highlands.

How about global warming trends? After 35 years of life in the Valley, I simplify climate by saying: "Our Valley ecosystems are drying up." Hints of this phenomenon permeate the assessment here and there but don't show much in the proposals. Please relate those trends more directly to the place. We need your professional guidance.

one particular alternative. In this case, the Selected Alternative defers treatment of 13 units as in Alternative A, uses a permutation of Alternative C in requiring forwarder harvest on the units described, and retains elements of Alternatives B and C use of Clearcut with Reserves or Seed Tree with Reserves on those stands whose current conditions (largely due to pine beetle) make them appear highly likely to significantly deteriorate in the near future.

As we have discussed with you and as described in the letters to Bill Moore and Vicki Moore, we have dropped Unit 2 from this decision. We will not need to construct road in Section 35, but will continue to seek general public non-motorized access (consistent with our grizzly bear objectives) into the isolated Forest Service parcel in Section 26.

←4 **Response to Comment #4:** We have made use of the Upper Swan Valley Landscape Assessment on several projects in the Swan Valley and continue to find it an excellent tool to set the environmental context for project level decisions.

←5 **Response to Comment #5:** As described in the decision, we will be limiting whole tree yarding on many specific areas within the project both for soils, and for stand protection reasons. As with any tool, whole tree yarding can be very appropriate in the right stand conditions and depending on the desired goals for a given treatment.

←6 **Response to Comment #6:** We see an increasing body of information and discussion of projected impacts from global warming trends in the scientific literature. Some of the literature projects an increase in insect activity due to warming and, in some areas, an increase in total fuel mass (particularly at higher elevations) due to longer growing seasons. Some current literature forecasts increases in the likelihood of longer and more severe fire seasons. Potential changes or shifts in plant species populations are also projected if climate trends continue. Many of our fire fighters intuitively agree (from what they've experienced in the last 10 or more years) on the duration and intensity of fire seasons observation. There is even discussion that broader genetic seed stock should be used for reforestation to allow for a more adaptive range of plant material. Most of the current literature projects generally increasing temperatures, but there seems to be more difficulty in predicting moisture regimes associated

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

<p>Some minor things I noticed:</p> <ul style="list-style-type: none"> • Equipment – You include numerous mention of whole tree yard excavator. What about the small in woods harvester processors? • 3-39 “Most of the private lands were derived from the 1862 Homestead Act”? I realize some were from the 1862 Homestead Act but I thought most were established by the National Forest Homestead Act of about 1906. <p>In summary, I admire the professionalism, land ethics, dedication and spirit of the preparers of this EA. Thanks Friends! It’s a tremendous piece of work, the best I’ve seen for at least twenty years. But I haven’t seen a Forest Service EA for at least twenty years either. Yours can’t compete in size, as I am reminded of Norman Maclean, who some twenty-five years ago claimed he got a hernia trying to carry one of those big Environmental Impact Statements from the mail box to his cabin.</p> <p>So, with Norman in mind, I’ve saved a small bit of credit for myself for reading</p>		<p>with a warming climate. Some scientists think there may be shifts to more winter moisture.</p> <p>Relative to projects such as Hemlock Elk in using this information, we tend to be cautious in projecting the specific effects of global warming as requiring site specific actions. Certainly, the principle of “saving all the pieces” so as not to preclude options is always a sound principle. Thinning of stands both for forest health and reduction of fuels in the face of possible increases in insect and fire severity is certainly consistent with currently predicted probable affects of a warming climate. Our observations of increased mountain pine beetle activity in the Swan Valley are consistent with observations elsewhere. Though treatment is sometimes a reaction to these events, there is evidence that thinning of lodgepole before heavy infestation does increase the chances of a lodgepole stand to avoid severe infestation, but must be balanced with windthrow potential. There appears to be mixed opinions about whether the observed increases in mountain pine beetle in the mountain west is driven by warming climate, the advanced age (and general reduced vigor) of many lodgepole stands or both. We do feel that the Hemlock Elk Project would treat the area in a fashion to leave it more resilient in the face of a warning climate; however, we are reluctant to claim that as the need to propose this project.</p> <p>←7 Response to Comment #7: See the Response to Comment #5 above. The Selected Alternative would make use of forwarder/in-woods processor machinery as you suggest.</p> <p>←8 Response to Comment #8: Your correction is noted, thank you.</p> <p>←9 Response to Comment #9: Thank you for your comment. We suspect you’ve had much more entertaining reading over the past 20 years, but do appreciate the time you’ve taken to thoroughly review the EA. Comments such as yours, plus the time you’ve taken to look at things in the woods and give us specific comments have helped craft the final decision. We feel it has been made a better decision because of input like yours.</p>
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Hemlock Elk Fuels Reduction and Forest Health Environmental Assessment
Appendix ?? – Response to Comments

the whole story, appendences and all. That took me tree days, plus three pots of coffee, but it was worth it.

Let me know what happens. I'll help any time I can.

Think sustainability,

Bud Moore
Coyote Forest
P.O. Box 1070
Condon, MT 59826
Phone: 406-754-2473
Email: coyoteforest@blackfoot.net

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter C-5. Bud Moore	Comment #	Resource Area/Response
<p>September 5, 2008</p> <p>Steve Brady, District Ranger Hemlock Elk Project Swan Lake Ranger District 200 Ranger Station Road Bigfork, MT 59911</p> <p>Good Morning Steve,</p> <p>My comments on the Hemlock Elk Environmental Assessment follow. I support the letters you have already likely received from Vicki Moore, my daughter, and Bill Moore, my son. We had considered a coordinated reply but life's adventures scattered us so we couldn't come together. We all support Alternative D with various modifications, in my case because it is less intrusive to natural ecosystems, and threatened, endangered or sensitive species.</p> <p>My comments during the scoping phase remain my greatest concern. That is protect natural barriers that prevent motorized access to Elk Creek watershed and to prevent degradation of hiding cover, thermal cover, and migration patterns of Projects 1 and 2, adjoining Coyote Forest.</p> <p>I favor Alternative D as explained above but remain concerned about boxing the responsible official into a range of alternatives, methods, models, guidelines, thinnings, prescriptions, tree harvests, systems, standards. In the broad sense, the</p>	<p style="text-align: center;">←1</p> <p style="text-align: center;">←2</p> <p style="text-align: center;">←3</p>	<p>Response to Comment #1: Please see the responses to Bill Moore and Vicki Moore relative to their specific comments. The Selected Alternative you see in the decision is a combination of all the alternatives, which results in dropping 13 units compared to the original Proposed Action, modifies some prescriptions as shown in the decision, and uses existing roads through Road Use Permits on PCTC lands to significantly reduce temporary road construction needs. Compared to Alternative D, the Selected Alternative proposes harvest on about 498 acres compared to 663 acres in Alternative D and would require about 1.3 miles of temporary road compared to 4.5 miles under Alternative D. The Selected Alternative map (Map 2) attached with the decision and the units in the decision likely provide the easiest way to see the details of the final decision.</p> <p>Response to Comment #2: Your comment (and other similar or related comments), as well as the ID Team's interactions and field work since our field trip, have led to several changes from the Proposed Action to the Selected Alternative. In the Selected Alternative, we have decided that those units south of the Elk Creek Road in Section 16 could be deferred because the stand conditions are such that they are likely to remain largely intact as stands while additional recovery goes on in nearby cut-over private lands. Further, the remaining stands in Section 16 can be accessed from existing roads on PCTC lands through Road Use Permits. This, in combination with forwarder yarding requirements, will significantly reduce the creation of access to Elk Creek.</p> <p>Response to Comment #3: As described above, the actual Selected Alternative is a mix of all the alternatives. The decision maker is not constrained in selection of the final alternative to picking solely aspects on</p>

Hemlock Elk Fuels Reduction and Forest Health Environmental Assessment
Appendix ?? – Response to Comments

above terms will do for communication such as this EA but if applied rigidly will fall short of meeting the complex needs of the Hemlock Elk Project. Guides, prescriptions, etc. can help but not replace the leadership and flexibility of a responsible official with an ecological feeling for the values and ecosystem integrity of place. And I am convinced that we have several of those competent land stewards available on the Flathead National Forest. Also, in application of Alternative D, if you could find some cooperative process to work together in Project 2, Coyote Forest could do it and save you constructing a road in Section 35.

Thanks much for recognizing and formally including the too often overlooked views and experience of people with long tenure of work and deep understanding of the place. Also your inclusion as a basic reference, the Upper Swan Valley Landscape Assessment, prepared by the Swan Ecosystem Management and Learning Center, demonstrated a thorough review of quality information available for creating this EA. That document has potential to bond the Forest Service closer to the communities involved.

Though a bit overwhelmed by the volume, I appreciate the backup you assembled to support the details and management direction of the Environmental Assessment, especially exposing the shortcomings of whole-tree yarding and burning. So, I'm going to use some of your disclosures to support our Ecosystem Plan at our new place, McFarland Highlands.

How about global warming trends? After 35 years of life in the Valley, I simplify climate by saying: "Our Valley ecosystems are drying up." Hints of this phenomenon permeate the assessment here and there but don't show much in the proposals. Please relate those trends more directly to the place. We need your professional guidance.

one particular alternative. In this case, the Selected Alternative defers treatment of 13 units as in Alternative A, uses a permutation of Alternative C in requiring forwarder harvest on the units described, and retains elements of Alternatives B and C use of Clearcut with Reserves or Seed Tree with Reserves on those stands whose current conditions (largely due to pine beetle) make them appear highly likely to significantly deteriorate in the near future.

As we have discussed with you and as described in the letters to Bill Moore and Vicki Moore, we have dropped Unit 2 from this decision. We will not need to construct road in Section 35, but will continue to seek general public non-motorized access (consistent with our grizzly bear objectives) into the isolated Forest Service parcel in Section 26.

←4 **Response to Comment #4:** We have made use of the Upper Swan Valley Landscape Assessment on several projects in the Swan Valley and continue to find it an excellent tool to set the environmental context for project level decisions.

←5 **Response to Comment #5:** As described in the decision, we will be limiting whole tree yarding on many specific areas within the project both for soils, and for stand protection reasons. As with any tool, whole tree yarding can be very appropriate in the right stand conditions and depending on the desired goals for a given treatment.

←6 **Response to Comment #6:** We see an increasing body of information and discussion of projected impacts from global warming trends in the scientific literature. Some of the literature projects an increase in insect activity due to warming and, in some areas, an increase in total fuel mass (particularly at higher elevations) due to longer growing seasons. Some current literature forecasts increases in the likelihood of longer and more severe fire seasons. Potential changes or shifts in plant species populations are also projected if climate trends continue. Many of our fire fighters intuitively agree (from what they've experienced in the last 10 or more years) on the duration and intensity of fire seasons observation. There is even discussion that broader genetic seed stock should be used for reforestation to allow for a more adaptive range of plant material. Most of the current literature projects generally increasing temperatures, but there seems to be more difficulty in predicting moisture regimes associated

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

<p>Some minor things I noticed:</p> <ul style="list-style-type: none"> • Equipment – You include numerous mention of whole tree yard excavator. What about the small in woods harvester processors? • 3-39 “Most of the private lands were derived from the 1862 Homestead Act”? I realize some were from the 1862 Homestead Act but I thought most were established by the National Forest Homestead Act of about 1906. <p>In summary, I admire the professionalism, land ethics, dedication and spirit of the preparers of this EA. Thanks Friends! It’s a tremendous piece of work, the best I’ve seen for at least twenty years. But I haven’t seen a Forest Service EA for at least twenty years either. Yours can’t compete in size, as I am reminded of Norman Maclean, who some twenty-five years ago claimed he got a hernia trying to carry one of those big Environmental Impact Statements from the mail box to his cabin.</p> <p>So, with Norman in mind, I’ve saved a small bit of credit for myself for reading</p>	<p>with a warming climate. Some scientists think there may be shifts to more winter moisture.</p> <p>Relative to projects such as Hemlock Elk in using this information, we tend to be cautious in projecting the specific effects of global warming as requiring site specific actions. Certainly, the principle of “saving all the pieces” so as not to preclude options is always a sound principle. Thinning of stands both for forest health and reduction of fuels in the face of possible increases in insect and fire severity is certainly consistent with currently predicted probable affects of a warming climate. Our observations of increased mountain pine beetle activity in the Swan Valley are consistent with observations elsewhere. Though treatment is sometimes a reaction to these events, there is evidence that thinning of lodgepole before heavy infestation does increase the chances of a lodgepole stand to avoid severe infestation, but must be balanced with windthrow potential. There appears to be mixed opinions about whether the observed increases in mountain pine beetle in the mountain west is driven by warming climate, the advanced age (and general reduced vigor) of many lodgepole stands or both. We do feel that the Hemlock Elk Project would treat the area in a fashion to leave it more resilient in the face of a warning climate; however, we are reluctant to claim that as the need to propose this project.</p> <p>←7 Response to Comment #7: See the Response to Comment #5 above. The Selected Alternative would make use of forwarder/in-woods processor machinery as you suggest.</p> <p>←8 Response to Comment #8: Your correction is noted, thank you.</p> <p>←9 Response to Comment #9: Thank you for your comment. We suspect you’ve had much more entertaining reading over the past 20 years, but do appreciate the time you’ve taken to thoroughly review the EA. Comments such as yours, plus the time you’ve taken to look at things in the woods and give us specific comments have helped craft the final decision. We feel it has been made a better decision because of input like yours.</p>
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Hemlock Elk Fuels Reduction and Forest Health Environmental Assessment
Appendix ?? – Response to Comments

the whole story, appendences and all. That took me tree days, plus three pots of coffee, but it was worth it.

Let me know what happens. I'll help any time I can.

Think sustainability,

Bud Moore
Coyote Forest
P.O. Box 1070
Condon, MT 59826
Phone: 406-754-2473
Email: coyoteforest@blackfoot.net

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter C-6. Ed Blackler	Comment #	Response
<p>blackler <blackler@acrossmont ana.net> To: comments-northern-flathead-swan-lake@fs.fed.us cc: Subject: Hemlock Elk Fuels Reduction and Forest Health Project 09/05/2008 09:58 PM Please respond to blackler To whomever is the appropriate person to receive public comment on this project:</p> <p>In light of the fact that the Hemlock Elk area has so recently been exposed to extensive fire, I have to question why a fuels reduction project is appropriate. The utilization of clearcutting and seedtree logging as a means of fuel reduction doesn't seem to be a logical alternative. The immediate area is already fragmented by the extensive clearcutting which has occurred on Plum Creek land. The amount of connected secure wildlife habitat in the area has been severely compromised by the timber harvesting activities on Plum Creek land, and every effort possible should be taken to enhance the needed migration corridors of the wildlife population.</p>	<p>←1</p>	<p>Response to Comment #1: The Crazy Horse Fire was largely to the south west of the project area and did not enter the WUI within the Hemlock Elk Project Area. The project originally did consider treatment of stands closer to the fire but did not fully develop such alternatives primarily to allow more time to pass for vegetative recovery. The stands selected for treatment were selected to meet one or all of the purposes stated for the project. Those are hazardous fuels reduction, forest health, and the provision of wood products for local economies.</p> <p>The Selected Alternative described in this decision and on the accompanying maps weighs existing conditions including the harvest on private lands with the purpose and need for the project. Though some respondents have characterized the project as solely a fuels reduction project, the project has clearly and consistently been proposed for all three purposes stated above. Some stands are not necessarily critical for fuels reduction in the WUI and do have ongoing forest health issues that should not be ignored.</p> <p>Though there has been extensive harvest on PCTC lands, there still exist increasing fuel build-up in stands on the NFS lands that adjoin the private lands. The harvest that has occurred on PCTC lands has not eliminated the issue on all the NFS lands, but the project has been tempered relative to that fact. The Selected Alternative further reduces treatments with some of the rationale being the harvest activities you describe on PCTC lands.</p> <p>The Selected Alternative defers 13 units and many of the regeneration harvest units from consideration. However, several units contain site specific stand conditions that will continue to worsen without prompt treatment and, when the affected trees are removed, will result in Clearcuts with retention of healthy species or Seed Trees with retention of healthy trees. In both prescriptions the nature of the stands treated is such that they contain extensive amounts of trees species (normally, but not</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter C-6. Ed Blackler	Comment #	Response
<p>Many of the concerns expressed during the scoping period have not been sufficiently addressed, and an Environmental Impact Statement should be prepared. A careful analysis of the potential impacts to the hydrology of Elk Creek and the area wetlands is not documented in the EA.</p> <p>I am concerned that the proposed alternative will actually have a negative impact on the sustainability of nearby old growth stands. I am disappointed to see that there is insufficient documentation in the EA which addresses specific population numbers of lynx, grizzly bear, red squirrel, hare, and how the proposed alternative will effect their accessibility to adequate forage.</p>	<p>←2</p> <p>←3</p>	<p>exclusively, lodgepole pine), which are actively being killed by insects and diseases. When the affected trees are removed, openings will be created which will need reforestation. Those units and the rationale for retention of them in the Selected Alternative are described in more detail in the decision and accompanying maps. Additional specific information is also included in responses to other comments in this appendix.</p> <p>In the Selected Alternative, the overall harvest treatment has been reduced to about 498 acres with regeneration harvest limited to stands where the conditions to be treated will not likely wait until a later entry. All of the stands to be treated are within the Forest's suitable timber base where forest health and the production of forest products are important considerations. Based on the analysis in the EA and the changes made by the Selected Action, there will not be significant negative affects to wildlife or fish populations from this project.</p> <p>Response to Comment #2: The consequences of the Selected Alternative do not meet the threshold of significance as discussed in the FONSI, which is incorporated into this decision. Area wetlands are avoided in the design of the project and the EA and DN, and Responses to Comments, contain a comprehensive discussion of affects to the hydrology of the area and to the watershed (Please see the DN, FONSI, EA (pages 3-127 to 3-159). Additional information on watershed effects is found in the Cumulative Effects Worksheet (Project File Exhibit K-1b).</p> <p>Response to Comment #3: The EA and project file contain information on the likely effects of the project on the habitat for the species affected. Though we do not have specific population numbers for lynx, grizzly bear, red squirrel and hare in the project area, the analysis indicates that we are not likely to significantly affect the habitat for such species. The project did not target harvest in any old growth stands. The USFWS concurred with the conclusion that the project was not likely to adversely affect grizzly bear or lynx (EA 3-170, 3-184). The effects analysis in the Wildlife Sections of the EA that pertain to snowshoe hare (pages 3-125 through 3-220, and pages 3-161 through 3-170, which consider hare habitat in relation to lynx needs) indicate that the project will not adversely affect this species. Red squirrel is not a species directly analyzed due to its relative abundance but the availability of habitat for other indicator species utilizing similar habitat in the EA indicates that the project will not adversely impact their ability to forage.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter C-6. Ed Blackler	Comment #	Response
<p>I also have concerns about the negative impact that the proposed roads will have on the bull trout habitat.</p> <p>There is insufficient data in the EA dealing with the effects of soil compaction on near surface groundwater caused by roads.</p> <p>I strongly encourage additional research into ways to create a desirable condition of the forest in this project area before any further actions be approved.</p> <p>Thank you for the opportunity to comment. Edd Blackler, POB 555, Bigfork MT. 59911</p>	<p>#4</p> <p>←5</p>	<p>Response to Comment #4: The project is designed to limit any impact to bull trout. The USFWS concurred that the proposed action would not likely adversely affect bull trout. Some of the Resource Enhancements, which are proposed in the project for long-term improvement of water quality and fish habitat, were found to have a short term affect (as when culverts are removed or replaced), but would not adversely affect the species. Long term affects from these Resource Enhancement Projects are expected to benefit bull trout and/or other aquatic species. Bull trout are thoroughly analyzed in the EA, and in the Bull trout BA.</p> <p>Response to Comment #5: The effects of the project to near surface groundwater caused by roads is discussed at length in the Fisheries Section of the EA (pages 3-153 and 3-154) with the conclusion that the proposed vegetative actions including the use and creation of roads would have no impact to fish habitat. The Selected Alternative further reduces the estimated amount of temporary road needed from 4.8 miles to about 1.3 miles and requires use of forwarder skidding and “in-woods” processing on many units (See DN for detail) which should result in even less potential for impact.</p> <p>There has been considerable public input, field trips, and data gathering about the project area since the initial scoping. The final decision has used that input to refine the Selected Alternative.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter C-7. Arlene Montgomery, Friends of the Wild Swan	Comment #	Response
<p style="text-align: center;"><i>Friends of the Wild Swan P.O. Box 5103 Swan Lake, MT 59911</i></p> <p>September 8, 2008</p> <p>Swan Lake Ranger District Attn: Steve Brady 200 Ranger Station Road Bigfork, MT 59911</p> <p>Hemlock Elk Fuels Reduction and Forest Health Project Via e-mail to: comments-northern-flathead-swan-lake@fs.fed.us</p> <p>Dear Steve,</p> <p>Please accept the following comment on the Hemlock Elk Fuels Reduction and Forest Health Project on behalf of Friends of the Wild Swan. We incorporate by reference the comments submitted by Swan View Coalition and Wild West Institute.</p> <p>We do not believe that the Environmental Assessment adequately analyzed the effects nor did it address many of the comments that we raised during scoping. We believe that an Environmental Impact Statement should be prepared.</p> <p>We also object to a fuels reduction project that uses clearcut and seedtree logging as its primary method in two of the three alternatives. The landscape in the Swan Valley is already heavily fragmented by clearcut logging on Plum Creek lands, the Forest Service should be looking at ways to provide connectivity for wildlife rather than severing it.</p>	<p style="text-align: center;">←1</p> <p style="text-align: center;">←2</p>	<p>Thank you for your comments. Please see the responses to Swan View Coalition and Wild West Institute for responses to their comments.</p> <p>Response to Comment #1: The direct, indirect, and cumulative effects associated with the proposed activities and described in the EA have been determined to be non-significant (see FONSI). The Selected Alternative is consistent with Forest Plan direction and other applicable laws, regulations, and policies that apply to the project area. The Selected Alternative has been designed to reflect many of the interests and issues raised in scoping. The direct, indirect, and cumulative effects of the project are found to be non-significant as demonstrated throughout the EA and as reflected in this DN relative to the Selected Alternative. For these reasons, an EIS is not required.</p> <p>Response to Comment #2: The Hemlock Project is aimed at fuels reduction, forest health, and providing wood products. Where regeneration harvest is used, it is primarily related to treatment of specific stands where forest health conditions are such that other treatments would not address the situations occurring in these stands and where forest health was the primary focus of the treatments. Such treatments will have a secondary benefit of reducing fuels in the specific stands. Your statement seems to incorrectly imply that the project was premised solely as a fuels reduction</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter C-7. Arlene Montgomery, Friends of the Wild Swan	Comment #	Response
<p>Wetlands, Hydrology and Fisheries</p> <ul style="list-style-type: none"> Where was the analysis of impacts to wetlands? Wetlands and the impacts to the hydrology of Elk Creek were a concern that we raised in our scoping comments. We could not find an analysis of the effects in the Water Resources section. 	<p style="text-align: center;">←3</p>	<p>project. As stated in the EA, the purpose and needs of the project are to: 1) reduce the associated risk of high severity landscape wildfire risk within the WUI, 2) provide a safer environment for the public and firefighters should a wildfire occur, 3) increase the probability of stopping wildfires on NFS lands before they burn onto private lands, 4) restore and maintain forest health (restore historical tree species composition, structure and pattern), 5) reduce the growing risk for insects and disease infestation, and 6) provide wood products for local economies. The final Selected Alternative is a combination of all three alternatives that we feel best meets these purpose and needs. This alternative treats 223 acres within the WUI and 275 acres outside the WUI. Some regeneration harvest units described in the alternatives are retained in the Selected Alternative. Please note that the Selected Alternative will reduce harvest proposed in Sections 4 and 16 in response to issues raised during the comment period in regards to wildlife habitat concerns associated with adjacent PCTC harvest activities.</p> <p>Response to Comment #3: The potential effects of the proposed activities on wetlands, creeks, and watersheds were discussed in several sections of the Hemlock Elk EA. The effects to water quantity and channel stability of Glacier, Elk, and Cold Creeks were discussed in the Water Resources Section on pages 3-127 thru 3-139 of the EA.</p> <p>The Threatened and Sensitive Plant Species Section of the EA (pages 3-81 thru 3-97) discusses wetland habitats and the effects of the proposed activities to plant species associated with these habitats, which includes the water howellia (<i>Howellia aquatilis</i>). As stated in the EA on page 3-82, “Special habitats were mapped (wetlands, seeps, meadows, etc.) during surveys (Project File Exhibit H-8). Design Criteria would avoid wetlands with all ground-disturbing activities, including lakes, ponds, marshes, fens, and streams by establishing buffers around wetlands (See Design Criteria, Table 2-15).”</p> <p>Forest personnel have been working with the Montana Heritage Program and the University system since the late 1990’s to study the effects of different aspects of forest management on riparian areas, groundwater interaction, and wetland function. Most relevantly, an in-depth study of a select number of wetlands containing water howellia was completed (Reeves 2001). In this masters study, it was suggested that no forest</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter C-7. Arlene Montgomery, Friends of the Wild Swan	Comment #	Response
<ul style="list-style-type: none"> • The project area has many wetlands and ponds. Units 25, 26, 27 and 28 in sections 28 and 22 (Windfall drainage) are wetland areas. Units 16, 17, 18 and b, 19, 20, 21, 22, 23 and 24 a and b in Section 16 (Elk Creek drainage) are wetland areas. Units 3, 4, 5, 6 and 7 in Section 4 (Cold creek tributary) are wetland areas. Out of these units this project proposes to clearcut units 20 and 21 and applies seed tree cuts to units 27, 28, 16 and 22. On top of this the project proposes building 4.5 miles of temporary roads. Many of them are in Section 16 in the Elk Creek drainage which has numerous wetlands and where there is now only one road through the northeast corner. <u>What are the impacts?</u> • Wetlands play a critical hydrologic role that was not evaluated for this project. How does logging (and especially clearcut logging) adjacent to wetlands affect the hydrology of the area? How does logging (and especially clearcut logging) adjacent to wetlands affect upwelling in Elk Creek and consequently bull trout spawning? How does logging adjacent to wetlands affect water quality and quantity? How does logging affect soils and soil compaction? 	←4	<p>management, of the kind proposed by the Hemlock Elk Project would have a measurable effect on either water quantity or quality in the areas' numerous wetlands. As a result, changes to groundwater were not chosen as a measurement indicator for the Water Resource and was not analyzed as such. A review of the groundwater depths through Montana's Ground-Water Information Center (GWIC) demonstrates the shallow groundwater aquifer in this area has fluctuated between about 50 and 59 feet at nearby Condon (GWIC Id; 133045). With measured groundwater levels of this depth, it is not foreseeable that timber management as designed for this project would have a direct effect; therefore, this was also not chosen as a measurement indicator.</p> <p>Response to Comment #4: See Response to Comment #3 above. Please note that in the Selected Alternative, Units 25 and 28 are modified from the Proposed Action, but none of these units are planned to be within wetland areas. Though there are wetlands in Sections 22 and 28, the units have been designed to avoid any harvest within wetlands. Please also note that in the Selected Alternative, Units 16, 18a, 18b, 19, a portion of 23, and Units 24a, and 24b have been deferred from this decision. Also note that with the use of existing PCTC system roads through Road Use Permits combined with the use of forwarder logging, most of the temporary road in Section 16 has been eliminated. This design feature was one of the items suggested and discussed at the public field trip for the project this spring and is anticipated to reduce impacts to wildlife and bull trout security while also reducing impacts to soils. The reduced ground disturbance should also result in less potential seed bed for noxious weeds.</p> <p>The potential effects of the proposed activities on wetlands were discussed in several sections of the Hemlock Elk EA. As mentioned above, the effects to water quantity and channel stability of Glacier, Elk, and Cold Creeks were discussed in the Water Resources Section on pages 3-127 thru 3-139 of the EA.</p> <p>The Threatened and Sensitive Plant Species Section of the EA (pages 3-81 thru 3-97) discusses wetland habitats and the effects of the proposed activities to plant species associated with these habitats, which includes the water howellia (<i>Howellia aquatilis</i>). As stated in the EA on page 3-82, "Special habitats were mapped (wetlands, seeps, meadows, etc) during surveys (Project File Exhibit H-8). Design Criteria would avoid wetlands with all ground-disturbing activities, including lakes, ponds, marshes, fens,</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter C-7. Arlene Montgomery, Friends of the Wild Swan	Comment #	Response
<p>The only attempt to answer these questions was in the Fisheries section of the EA and it actually raised more cause for concern.</p> <p>“Roads, even temporary roads, compact the soil and can potentially interfere with groundwater movement. This concern is thought to be more prevalent when the road is located where groundwater is close to the surface. <u>No groundwater tests are available, but this 640 acre section of land has 32 known wetlands (possibly more) and about 1</u></p>	<p style="text-align: center;">←5</p>	<p>and streams by establishing buffers around wetlands (See Design Criteria, Table 2-15).”</p> <p>The Fisheries Section analyzed the potential effects of the fuel and vegetation treatments, temporary roads, and resource enhancements to Fisheries in Cold, Elk, and Glacier Creeks on pages 3-141 through 3-159 of the EA. The Selected Alternative complies with the directions and goals set forth in the Forest Plan including the INFISH Amendment. The Forest Service adopted INFISH with the goal of recovering native fish populations. In order to achieve the goal, several riparian management objectives were established. Activities must not retard the attainment of those goals. This project does not retard the riparian management objectives and fully complies with INFISH. INFISH also requires that Riparian Habitat Conservation Areas (RHCAs) be managed in a way which protects fish habitat. No vegetation management will be conducted within INFISH RHCA's, except as specifically designed with Unit 1 (Fisheries Project File Exhibit L-5). No activity will occur within 300 feet of any fish-bearing stream, or 150 feet of any perennial non-fish bearing stream, or 100 feet from any intermittent stream in the Elk Creek Watershed. No activity within 50 feet of any wetland less than 1 acre or 150 feet of any wetland greater than 1 acre would be conducted. The Fisheries analysis determined that the project “may affect but is not likely to adversely affect” the threatened bull trout. The USFWS concurred with this determination on September 29, 2008 (Project File Exhibit E-4).</p> <p>The Soils Section in the EA (pages 3-9 through 3-31) analyzed potential changes in soil porosity and water infiltration rates, primarily as it related to soil compaction. Soil and Water Conservation Practices, incorporated as contract clauses, also require all BMPs and aspects of the Montana Streamside Management Zone Act will be legally adhered to.</p> <p>Response to Comment #5: As displayed on page 3-154 of the EA, the Fisheries Biologist concluded that the proposed temporary roads and harvest “may affect, but is not likely to adversely affect” the threatened bull trout. The USFWS concurred with this conclusion (Project File Exhibit E-4) The 640-acre Section 16 may have considerable groundwater but is only likely to be vulnerable to compaction near wetlands, streams and riparian landtypes. With the exception of 83 feet of temporary road construction to Unit 19 (which has been deferred) and an ephemeral draw to access Unit</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter C-7. Arlene Montgomery, Friends of the Wild Swan	Comment #	Response
<p><u>mile of key bull trout spawning habitat.</u> These attributes strongly suggest groundwater percolates through the area close to the surface. However this geographic area also has highly variable topography with numerous small ridges (5-10' high) and plateaus.</p> <p>The protection of near-surface groundwater may be critical to bull trout ecology, especially in order to provide suitable water temperature (Frissell 1999). Frissell proposes that locations with shallow groundwater be spatially mapped and then protected from human alteration. <u>This poses a challenge for assessment of Hemlock Elk Project, since shallow groundwater has not been spatially mapped.</u> A reasonable conclusion is that groundwater is most likely close to surface in mapped riparian landtypes (Sirucek and Bachurski 1995), or within roughly 100 feet of existing wetlands or in low areas between the ridges and plateaus. The temporary road proposed to reach Unit 21 does cross an ephemeral draw, and this area could potentially disturb groundwater. Plus, the first 83 feet of the temporary road to access Unit 19 is on a riparian landtype. The other roads travel close to, but do not enter riparian landtypes. Thus, it is judged that the roads would have only a minor and temporary risk to groundwater and it is not likely to have measurable consequences to bull trout habitat.” (EA at pages 3-153-154; emphasis added)</p> <p>There are at least 32 wetlands and a critical bull trout spawning stream throughout Section 16, the shallow groundwater has not been mapped, several miles of roads will be built and 297 acres will be logged. We fail to see how the conclusion that this is not likely to have measurable consequences to bull trout habitat can be reached given the lack of data and analysis in the EA.</p> <ul style="list-style-type: none"> • The EA relies on INFISH buffers to mitigate any impacts to the streams. INFISH was adopted as an interim measure to maintain the status quo while the larger Interior Columbia Basin Ecosystem Management Project (ICBEMP) was finalized. ICBEMP was never finished. We question whether INFISH is adequate to protect a sensitive and important bull trout spawning stream like Elk Creek and not further impair Cold Creek. • The EA did not analyze the impacts to bull or westslope cutthroat trout from providing fish passage for brook trout with some of the Resource Enhancement Projects. What is the risk of hybridization? What is the risk from competition? 	<p></p> <p style="text-align: center;">←6</p> <p style="text-align: center;">←7</p>	<p>21 (which is now not used with the access from the south and the use of forwarder logging), none of the roads are near wetlands or streams or within mapped riparian landtypes. Thus, it is not likely to have a measurable impact to the overall role of groundwater to Elk Creek. Likewise, the Biologist concluded that the vegetation management would have no impact due to retention of RHCAs. The BA for bull trout determined that the Hemlock Elk Proposed Action “may affect, but not likely to adversely affect” bull trout. The USFWS concurred with this determination.</p> <p>Again, even though the Proposed Action was not found to likely impact groundwater, the Selected Alternative treats a reduced amount of acres than originally proposed in Section 16 and reduces the amount of temporary road construction. The Selected Alternative treats Units 17, 20, 21, 22, and 23 in Section 16 totaling 146 acres. Unit 19 has been dropped in addition to several segments of temporary road construction. You will see that Units 21, 22, and 23 will be accessed by 0.13 miles of new temporary road originating in Section 21 of PCTC land totaling with about 0.15 miles on the National Forest System lands to access a suitable landing location. Unit 20 will have 0.14 miles of temporary road constructed from Section 17 of PCTC land. The Selected Alternative would reduce the amount of temporary road construction in Section 16 from 2.39 miles proposed in the EA to about 0.29 miles of temporary road.</p> <p>Response to Comment #6: As reviewed on page 3-154 of the EA, Castro and Rickendorf (1995) and the USDA Forest Service (1995) determined that buffers like those used in Hemlock Elk would be sufficient to capture any overland erosion or sedimentation. The BA for bull trout also determined the buffer widths were sufficient for protection of large woody debris, shade, and noise disturbance during project implementation. The USFWS concurred with this determination.</p> <p>Response to Comment #7: We agree that any new fish passage should carefully consider the risks of hybridization and competition. The EA did review these concerns on page 3-155 and 3-156. Brook trout are the only</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter C-7. Arlene Montgomery, Friends of the Wild Swan	Comment #	Response
<p>security and will possibly increase grizzly bear deaths, but also opens up the forest understory contributing to illegal motorized use that is already a problem on this District. There are plenty of clearcuts and roads in the Swan Valley but little low elevation secure habitat.</p>		<p>land using a short temporary road and would be harvested using a forwarder. The temporary and forwarder roads are not located near security core.</p> <p>Construction and use of the temporary and forwarder roads will not decrease security core in the subunit. Existing open roads and closed roads (currently bermed or gated) will be used to conduct the vegetation management operations. Use of open roads will not change from the existing conditions. Roads that are currently closed, but will be used for proposed activities and will be closed to the public during the time they are used for timber management activities (See Design Criteria – Appendix 2 of this DN). Actions implemented under the Selected Alternative will not increase the total road density (TRD) in the subunit. Open road densities (ORD) will increase temporarily during sale activities, which are allowed under the SVGBCA in an “active” subunit.</p> <p>Design Criteria to prevent unauthorized use are incorporated into the project (See Appendix 2 - Design Criteria in the Decision Notice). Temporary roads will be obliterated and existing regulations prohibiting cross-country motorized use are in place and will be enforced. The direct effects of temporary roads and their use is analyzed throughout the Wildlife Section of the EA. If the question is based on the presumption of significant amounts of unauthorized use occurring post harvest, we believe the temporary and forwarder roads and obliteration and legal closures and patrol and law enforcement work will keep such activities in check. The use of existing PCTC system roads under road use permit will also minimize creation of temporary road from off open system as all the PCTC roads to be used are gated and not open for public motorized travel. These areas are open to winter snowmobile use and such use was analyzed in Amendment 24 and not found to be detrimental.</p> <p>In 2009, when the Hemlock Elk Bear Subunit is “active,” major forest management activities may be conducted throughout the year, with few limitations. In order to avoid the potential disturbance of grizzly bears in important spring habitat, management activities that are planned in spring habitat, which is defined as areas within designated linkage zones and below 5,200 feet (USFWS 1997), will not occur within the spring period (April 1 through June 15) (See Design Criteria in Appendix 2 of the DN). This timing restriction will apply to Units 1, 20, 21, 22, 23, 25, 27, and 28.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter C-7. Arlene Montgomery, Friends of the Wild Swan	Comment #	Response
<p>• On the May 5th field tour of the project area there was a lot of discussion about the clearcuts on Plum Creek lands adjacent to Section 16 and that wildlife were “funneled” into Section 16 because it provided cover and security. The EA is sparse in its analysis of the impacts to wildlife from this project. The EA states that there will be a decrease in hiding cover on 203 acres from Alternative B (EA at page 3-177). But we don’t know: Where is the hiding cover for grizzly bears now? Is it adequate? Where and how much will there be post-project? How much of a reduction is that from the existing condition? Where are grizzly bear food sources? Is there enough now or is that contributing to bears are being attracted to homes? How will the natural food sources be affected by this project? Will bears be displaced from them during this project? Will this increase mortality?</p>	<p>←10</p>	<p>A decrease in hiding cover on in the Hemlock Elk Project Area, as described in the EA, will not have significant effects on grizzly bear security and will not contribute to the mortality issue for grizzly bears in the Swan Valley. The amount of the reduction and the location of it should not have a measurable effect on bears. The limited Clearcut with Reserves, Patch Clearcut, and Seed Tree with Reserves cutting proposed is well within guidelines established in the SVGBCA and the USFWS has concurred that the proposed action is not likely to adversely affect bears.</p> <p>In response to your comment on grizzly bear survival being best in areas with low road densities, although this comment generally has merit, the monitoring in the Swan Valley showed that grizzly bear survival is best where people do not live around grizzly bears. The monitoring that was conducted did not demonstrate that forest management practices in the SVGBCA increase or decrease mortality rate for grizzly bear.</p> <p>It should also be noted that the original alternatives considered, but not developed in detail screened out Sections 8 and the bulk of Section 28 of T20N R17W and Section 22 of T21N R17W from further harvest consideration. The limited amount of regeneration harvest being proposed (about 24 percent of all treatment acres proposed in the Selected Alternative) is a reflection that such treatments have only been recommended when the stand conditions were such that regeneration harvest was the only viable means to achieve longer term forest health within these stands (See DN and EA, pages 3-34 through 3-36 and pages 3-62 and 3-63).</p> <p>Response to Comment #10: The analysis for Threatened and Endangered Species includes discussion of habitat characteristics, habitat availability, and conditions in the project area and analysis areas, and population health in the EA on pages 3-161 through 3-184. Adequate amounts of denning and forage habitat, and a level of security within the bear’s territory that provides for a low risk of displacement or mortality are the key elements thought to be essential to the conservation of the species. These elements and the anticipated effects to these elements from project implementation were the measurement indicators used in the grizzly bear analysis. In the Selected Alternative, hiding cover will be retained on 378 acres, in the Thin From Below, Sanitation, and in non-commercial treatment units. As the EA states on pages, 3-178, hiding</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter C-7. Arlene Montgomery, Friends of the Wild Swan	Comment #	Response
		<p>cover is not a limiting factor in the bear subunit. The EA goes on to say, “The SVGBCA has established that each major landowner (e.g., Forest Service and PCTC in the Hemlock Elk Subunit) will maintain at least 40 percent of the area in cover. There is currently approximately 83 percent hiding cover on NFS lands in the subunit and approximately 56 percent hiding cover on PCTC lands, for an average of approximately 70 percent hiding cover across the subunit (SVGBCA Monitoring Report 2007).” Loss of hiding cover would occur in Units 10, 11, 20, 21, 22, 25, and 27 (128 acres). These units are proposed for Clearcut with Reserves or Seed Tree with Reserves treatment. In each case, the units are adjacent to existing hiding cover, which would remain on site and be available for wildlife.</p> <p>As per the SVGBCA, vegetative screening, where it currently exists, will be retained along open roads in the project area, and Clearcut and Seed Tree Units will be laid out so that no point in the unit is more than 600 feet from hiding cover (See Design Criteria, Appendix 2 of the DN). These Design Criteria help to mitigate potential effects to the grizzly bear from a short-term (10 to 15 years) loss of overall hiding cover in the subunit.</p> <p>There are no treatments proposed in riparian areas or old growth forest stands, which are components of grizzly bear habitat. These areas will continue to provide hiding cover.</p> <p>The EA discusses forage for the bear on page 3-178. Forage is not limited across the subunit. Areas currently providing forage will continue to provide forage with the implementation of the Hemlock Elk Project. A Special Order is in effect requiring all users of NFS lands within the NCDE to store food, garbage and other bear attractants in a bear resistant manner. Contractors, and others implementing the proposed project, will be required to comply with this order.</p> <p>A determination was made that the project “may affect – not likely to adversely affect” the bear. The USFWS concurred with this determination.</p> <p>In regards to the analysis of impacts to other wildlife, habitat conditions for old growth associated species in the analysis area were analyzed and discussed in the EA (pages 3-185 thru 3-195). The Hemlock Elk Project is consistent with the NFMA and with Forest Plan Amendment 21. The analysis of sensitive species included a discussion of existing habitat and habitat conditions for the different species, which may be found within the</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter C-7. Arlene Montgomery, Friends of the Wild Swan	Comment #	Response
<ul style="list-style-type: none"> • There is no analysis of whether proposed lynx critical habitat will be adversely modified. • The EA tells us that there is 11.63% old-growth on the Flathead National Forest but does not disclose how much old-growth forest habitat is there in the project area. Where it is. What is next to it? How connected is it? Where are mature stands that can be recruited as replacement old growth? What old-growth dependent wildlife are using it? There are no maps to show this information. We believe there should be an effort by the Flathead to connect rather than fragment old-growth forest habitat. 	<p style="text-align: center;">←11</p> <p style="text-align: center;">←12</p>	<p>project area (EA, pages 3-197 through 3-213). Determinations were made on whether significant impacts would occur. Habitat conditions for snag and down woody dependent species in the analysis area were analyzed and discussed in the EA (pages 3-215 through 3-220). The wildlife analysis also included discussion of Forest Management Indicator Species and migratory birds (EA, pages 3-221 through 3-235). After a discussion of existing conditions for these species and the environmental consequences of implementing the Hemlock Elk Project, it was determined that no significant population impacts would be triggered as a result of the proposed actions.</p> <p>Response to Comment #11: As the EA states on page 3-163, “In the Hemlock Elk area, all of the lands that are designated as lynx habitat are also proposed as critical lynx habitat.” The EA displays the effects to proposed critical lynx habitat on pages 3-163 through 3-170.</p> <p>Response to Comment #12: There is no proposed treatment in old growth habitat under the Hemlock Elk Project proposal. Treatment in old growth forest stands was deferred. An extensive survey of old growth forest habitat outside of the treatment area was not conducted due to the fact that all existing old growth habitat would remain; the amount of old growth across the Hemlock Elk landscape would not be affected by this proposal. Stands initially proposed for treatment were surveyed to assure that no treatment was proposed in old growth habitat. Affects analysis for this project included an analysis of how the proposed treatments would affect existing old growth habitat adjacent to the proposed units. Interior integrity of existing old growth adjacent to the Hemlock Elk Project was analyzed, as was old growth recruitment and possible displacement of old growth species (pages 3-190 through 3-194).</p> <p>The EA describes the stand structures for the entire project area on page 3-45. Stand files showing the juxtaposition of young, mature, and stands slated for harvest are in the project file (Project File Exhibit G-4).</p> <p>In no case do proposed treatments sever existing old growth stands from forested cover and isolate those old growth habitats. There is a limited amount of regeneration harvest proposed; however, these units do not inhibit connectivity due to the existence of adjacent hiding cover, as described above. Other prescribed treatments, as described in the EA</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter C-7. Arlene Montgomery, Friends of the Wild Swan	Comment #	Response
<p>The EA does disclose that the “total amount of old growth forest habitat covers less land area, the patches of old growth forest are smaller in size and remaining old growth forest habitat has changed both structurally and in distribution.” (page 3-189) It also discloses that old-growth dependent wildlife such as pine marten require at least 250 to 500 acres yet the existing old growth patch sizes range from 14 to 297 acres in the project area. We appreciate that this project is not logging in old-growth forest habitat but new edge will be created next to existing old growth which further compromises its ability to function as adequate habitat. It also could make the old-growth stands susceptible to blow down which was not analyzed in the EA.</p> <p>Disclosure is not analysis. What are the current effects to wildlife due to the small old-growth patch sizes? How will these new edge effects impact wildlife?</p>	<p>←13</p>	<p>(pages 3-191 through 3-194) would be management designed to recruit old growth stands in the future and would be an effort to connect rather than fragment old growth forest habitat.</p> <p>Response to Comment #13: The EA analyzes the edge effects to old growth associated species on pages 3-191 through 3-194. As described, the effects from partial cutting adjacent to existing old growth habitat would be minimal. Interior integrity of existing old growth and possible isolation of old growth habitat due to the severing of connective cover are more likely where regeneration treatment is proposed adjacent to existing old growth. The only units where new edge (regeneration cutting) is proposed adjacent to existing old growth forest would be Units 10 and 11. Units 10 and 11 are surrounded by adjacent mature and old growth stands and are narrow units, with distance to adjacent seedwalls being short. Section 8, where Unit 10 is located, is entirely forested with mostly mature and old growth stands of timber. Adjacent NFS sections are also heavily timbered and PCTC lands directly adjacent to Section 8 have a combination of mostly sapling/pole, immature, and mature forest stands. The situation for Unit 11 is similar. It is expected that effects to old growth associated species from treating Units 10 and 11 would be minimal.</p> <p>Blowdown potential is discussed in the EA on pages 3-42 and 3-49. The treatments have the potential to increase the amount of blowdown; however, this potential is anticipated to be minor. As discussed on the May 5th field tour of the project area, there is very little evidence of blowdown occurring on NFS lands adjacent to PCTC clearcuts. The few areas where blowdown has occurred have been in smaller size stands (not old growth), and the trees that have blown over have usually been lodgepole pine trees, not larger, old growth type larch, Douglas fir, ponderosa pine, etc. The recent blowdown event in the Swan Valley was a natural wind event that blew down trees in a certain area regardless of whether the trees were adjacent to openings or not.</p> <p>The effects of wind to forest vegetation are variable, both due to terrain and due to the variability of weather. Our observations of individual tree and small patches of blowdown in the project area indicate that wind has been a disturbance factor within the project area to an extent. Stand inventories and silvicultural walk throughs identified two areas recently affected by blowdown to a level that warrants noting. Proposed treatment Unit 2 experienced a blowdown of lodgepole pine during the winter of 2006/2007.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter C-7. Arlene Montgomery, Friends of the Wild Swan	Comment #	Response
<p>• The EA discloses that there is no monitoring that will be done for wildlife. How can the Flathead determine whether the proposed treatments are detrimental to wildlife and their habitat without any monitoring? Monitoring whether silvicultural prescriptions were met is not an adequate surrogate for wildlife monitoring.</p>	<p>←14</p>	<p>Additionally, in Unit 27, it appears that the majority of the lodgepole pine in this stand suffered wind damage following regeneration harvest on adjacent PCTC lands. This harvest created an abrupt straight edge, and Unit 27 is positioned along the leeward boundary in a corner that likely funneled wind. Unit 27 was observed during the May 2008 field trip in which strongly rooted larch dominate the site in Unit 27; only lodgepole pine had blowdown in the stand. Unit 2 is also deferred from treatment in the Selected Alternative.</p> <p>Response to Comment #14: The EA discloses that there would be no specific monitoring for wildlife as part of the Hemlock Elk Project. It is standard operating procedure to check on project design feature compliance relative to wildlife; for example, reclamation of temporary roads, road closures, retention of hiding cover, snag retention, and timing restrictions will be “monitored.” In addition, ongoing Forest Plan monitoring related to wildlife would occur.</p> <p>The analysis for threatened and endangered species includes discussion of habitat characteristics, habitat availability, and conditions in the project area and analysis areas, and population health in the EA on pages 3-161 through 3-184.</p> <p>In regards to the analysis of impacts to other wildlife, habitat conditions for old growth associated species in the analysis area were analyzed and discussed in the EA (pages 3-185 through 3-195). The Hemlock Elk Project is consistent with the NFMA and with Forest Plan Amendment 21. The analysis of sensitive species included a discussion of existing habitat and habitat conditions for the different species, which may be found within the project area (EA, pages 3-197 through 3-213). Determinations were made on whether significant impacts would occur. Habitat conditions for snag and down woody dependent species in the analysis area were analyzed and discussed in the EA (pages 3-215 through 3-220). The wildlife analysis also included discussion of Forest management indicator species and migratory birds (EA, pages 3-221 through 3-235). After a discussion of existing conditions for these species and the environmental consequences of implementing the Hemlock Elk Project, it was determined that no significant population impacts would be triggered because of the proposed actions.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter C-7. Arlene Montgomery, Friends of the Wild Swan	Comment #	Response
<ul style="list-style-type: none"> • The EIS must analyze the blowdown effects to old-growth forests, riparian areas, wetlands or other forest habitats. It must also disclose whether blowdown will be salvage logged. • Where is the current lynx foraging and denning habitat located? How will it be maintained, how will it be improved, how is it connected or how will it be impacted by this project? 	<p style="text-align: center;">←19</p> <p style="text-align: center;">←20</p>	<p>Flathead National Forest is currently old growth (Amendment 21, page 32). The EA discloses that old growth forest habitat was identified on NFS lands totaling an estimated 770 acres in the vicinity of proposed cutting units. The EA goes on to say that there is additional old growth forest located on other NFS lands within the 36, 653 Hemlock Elk Analysis Area. Old growth on individual private lands and on PCTC lands has not been included in the old growth analysis because of the availability of old growth on these lands is uncertain. The amount of existing old growth would not change due to project implementation. No treatment in old growth habitats would occur.</p> <p>In regard to your question about how this project is or is not moving the Flathead towards or away from the goal to maintain and recruit old growth forest, the Thin From Below, Pre-Commercial Thinning, and Sanitation treatments will likely result in more vigorous trees and overall stand conditions that are more resilient to disturbances. Consistent with direction and objectives in Amendment 21, these stands are being actively managed to promote old growth development by maintaining or restoring composition and structure to a condition similar to that expected under natural disturbance and succession regimes. In addition to these treatment areas, other mid- and late-seral stands exist within the project area, which have no proposed treatments associated with them. These stands provide additional potential for recruitment of old growth. Where regeneration treatments are prescribed (Clearcut and Seed Tree), the current stand conditions do not currently provide old growth habitat and are not on a trajectory to do so.</p> <p>Response to Comment #19: Please see Response to Comment #13. In addition, should significant blowdown occur, a separate analysis would be conducted to determine the feasibility of salvage.</p> <p>Response to Comment #20: Surveys of potential lynx foraging habitat outside of the proposed treatment area were not conducted due to the fact that all existing lynx foraging habitat would remain; the amount of lynx foraging habitat across the Hemlock Elk landscape would not be affected by this proposal. Stands initially proposed for treatment were surveyed to assure that no treatment was proposed in potential lynx foraging habitat.</p> <p>The analysis of the action alternatives to lynx foraging and denning habitat is displayed on pages 3-161 through 3-184 of the EA. In consideration of the Selected Alternative, there would be no effect to lynx <u>foraging</u> habitat</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter C-7. Arlene Montgomery, Friends of the Wild Swan	Comment #	Response
<p>• It is our understanding that the main criteria for lynx foraging habitat is the presence of snowshoe hares. Where are the important hare habitat in this project area, and what is the estimated population density (low, medium, high)? Where is current hare habitat in the cumulative effects area? Where is current red squirrel habitat in the project and cumulative effects area? How will the foraging habitat be affected by this project as well as Plum Creek logging and road building?</p> <p>Soils</p> <p>• Cutting units 6 and 14 currently do not meet the Region 1 soil standards for detrimental disturbance. Another eight units will either be at the threshold or exceed the R 1 standard post project. The EA predicts it could take five to ten years for moderately disturbed units to recover and ~20 years for severely disturbed units to recover from the proposed mechanized treatment. Why is the</p>	<p>←21</p> <p>←22</p>	<p>since no harvest units are located in existing lynx foraging habitat.</p> <p>In the Selected Alternative, Unit 10 is located within lynx <u>denning</u> habitat. This unit is proposed as a Clearcut with Reserves. Unit 10 will become unsuitable lynx habitat and will remain so until the vegetation grows in, and the stand begins to function as either forage or other lynx habitat, in approximately 10 or more years.</p> <p>Temporary road construction associated with the Selected Alternative will not decrease denning or foraging habitat for lynx.</p> <p>The Selected Alternative will not increase potential lynx mortality. Cover for lynx will remain connected and continuous, occurring in a pattern that follows stream courses in the lower elevations and then more variably and continuous on upland tracts of land. Non-target trapping mortality may occur in the area, but it is outside the control of the project. The Selected Alternative is consistent with the standards and guidelines described in the Northern Rockies Lynx Management Direction (please refer to analysis of action alternatives on pages 3-161 through 3-184).</p> <p>Response to Comment #21: As disclosed in the Hemlock Elk Analysis, there are no effects of the proposed actions to foraging habitat, and therefore no cumulative effects. The units proposed for treatments were screened prior to project design and currently do not provide foraging habitat (EA, page 3-164). The cumulative effects of this project coupled with other projects and PCTC harvest within the South Cold and Elk LAU's is discussed in the EA (EA, pages 3-166 through 3-169) and is also documented in the Cumulative Effects Worksheet contained in the project file (Project File Exhibit F-3). A determination was made that the project "may affect, but is not likely to adversely affect" lynx. The USFWS concurred with this determination. In addition, reference Response to Comment #20.</p> <p>Response to Comment #22: As displayed in the DN, the Selected Alternative has reduced the amount of acres treated to 498 in the Hemlock Elk Project. In the Selected Alternative, Units 6 and 14 will be deferred to allow the regeneration established on the skid trail network time to continue to ameliorate soil compaction without the addition of additional disturbance. Several design features are incorporated in the remaining units within the</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter C-7. Arlene Montgomery, Friends of the Wild Swan	Comment #	Response
<p>Flathead ignoring the soil standards in this project? Why does the Flathead believe that these 5, 10 and 20 year timeframes are acceptable for soil recovery?</p> <p>• The EA states that “soils in units 6 and 14 would be actively restored.. This active management would accelerate processes to restore function to these sites in 40 to 60 years.” (EA at page 3-18) How will these units be restored? What is the success rate for this “restoration”? What is it based on? Why does the Flathead believe that 40 to 60 years to restore soil function is acceptable?</p>	<p>←23</p>	<p>Selected Alternative to reduce potential soils impacts. A forwarder logging system will be used in Units 5b, 10, 11, 15, 20, 21, 22, 23, 25, and 27 instead of tractor with anticipated reduced impact due to the lower ground pressure and soil disturbance associated with forwarder yarding. In all units, where feasible, existing skid trails would be reused to reduce the additional detrimental impact within the units. The resulting actual ground disturbance will be monitored within the units and if the monitoring results indicate that additional mitigation is necessary to achieve soil recovery, a combination of the restoration activities such as ripping, planting of shrub species, would be used if monitoring indicates the need. Soil monitoring will take place as described in Appendix 3 of this decision.</p> <p>Restoration treatments were designed by the Soil Scientists who performed surveys on all proposed treatment units in the Hemlock Elk Project. These treatments were designed to protect soil and site productivity and have been determined to be effective based on primary literature and Forest Service monitoring results. Please refer to the Soils Specialist Report in the “Features Designed to Protect Soil and Site Productivity” Section for a discussion on this concern and for literature references that substantiate these recommendations.</p> <p>Response to Comment #23: The EA states on page 3-23 that “soil restoration treatments would include: 1) mechanical ripping (on temporary roads and landings); 2) freeze/thaw or wet/dry events; and 3) biologic activity (on skid trails and other moderately disturbed soils throughout the unit.” The EA goes on to state “To use biologic activity to reduce soil compaction: where feasible, place slash on old and new trails at a rate of 25 to 40 tons per acre, and an average of 8 tons per acre of coarse woody debris would be left on treatments units within the WUI; 8 to 21 tons per acre of coarse woody debris would be left in treatment units outside the WUI. Where available, 32 pieces average per acre 9 to 20 inches diameter and 15 pieces average per acre greater than 20 inches diameter would be left.”</p> <p>The EA (page 3-15) states, “soils observed were found to be relatively resilient. For new activities where all appropriate Design Criteria and techniques are employed, it is expected naturally restored soil pore space would occur between 5 and 40 years.” The EA also states, “If all natural elements and processes remain intact, soil impacts would be nearly undetectable within 20 to 40 years based on professional judgment and</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter C-7. Arlene Montgomery, Friends of the Wild Swan	Comment #	Response
<p>• This project is pushing soil compaction standards to or over the R1 standard – this does not take into consideration natural events.</p> <p>Thank you for the opportunity to comment on the Hemlock Elk EA, we expect our comments to be addressed.</p> <p>Sincerely, /s/Arlene Montgomery Program Director</p>	<p>←24</p>	<p>experience on these soil types.”</p> <p>As stated above, the Selected Alternative defers treatment of Units 6 and 14 primarily because the sites (including the impacted skid trails) do contain actively growing trees and shrubs, which are expected to continue to reduce the impact to the soils through root action if left undisturbed.</p> <p>Response to Comment #24: Soil restoration methods were discussed in the EA in the Soils Cumulative Effects Section. Additional design features, such as dropping units with previously impacted soils, but where vegetative processes are actively at work (such as in Units 6 and 14) and requiring the use of lower ground pressure machinery, such as forwarders on many units, will further reduce the soils impacts as compared to the proposed action. Of the four units which (based on estimations of potential increased detrimental disturbance) have the potential to exceed regional standards; two (6 and 14) are deferred, Unit 12 (a pre-commercial thinning) will be hand thinned without the use of machinery and monitored prior to fuel treatment to verify soils conditions to further reduce the possibility of detrimental soil impact. The remaining unit (5b) in this category will be required to be forwarder yarded to further reduce soil impact. The effectiveness of these activities is based on scientific studies by research entities, and the documents are cited in the analysis. The goal of the Design Criteria in Table 2-15 of the EA is to reduce the occurrence of detrimental soils disturbances to levels that do not require restoration activities.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter C-8. Roger Sherman		Resource Area/Response
<p>The EA does little to address the hydrology issue and the analysis of impacts to wetlands? Wetlands and the impacts to the hydrology of Elk Creek were a concern that was raised in some scoping comments. I do not think there is even an analysis of the effects in the Water Resources section of the EA. To quote from an interview I had with Arlene Montgomery (Friends of the Wild Swan) "Wetlands play a critical hydrologic role that must be carefully evaluated for this project.</p> <p>How does logging (and especially clearcut logging) adjacent to wetlands affect the hydrology of the area? How does logging (and especially clearcut logging) adjacent to wetlands affect upwelling in Elk Creek? How does logging affect soils and soil compaction"?</p> <p>Although I am not an expert on hydrology it seems to me these adverse effects will certainly be harmful to fish and water quality.</p> <p>Finally I ask, should there not be an Environmental Impact Statement prepared?</p> <p>Thank you, Roger Sherman 6203 Monterra Ave #H Whitefish 59937</p>	<p>←3</p> <p>←4</p> <p>←5</p> <p>←6</p>	<p>Response to Comment #3: Please see Friends of the Wild Swan Letter Response to Comments #3, #4, and #5.</p> <p>Response to Comment #4: Please see Friends of the Wild Swan Letter Response to Comments #3, #4, and #5.</p> <p>Response to Comment #5: Please see Friends of the Wild Swan Letter Response to Comments #3, #4, and #5.</p> <p>Response to Comment #6: Based on the findings in the EA, and in the FONSI included in this decision, the project as designed will not create a significant impact to the environment and the preparation of an EIS is not warranted.</p> <p>Thank you for taking the time to review the project. The input of people such as yourself have helped us refine the final decision and to make the decision better.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter C-9. Keith Hammer, Swan View Coalition		Response
<p><i>Swan View Coalition</i> Nature and Human Nature on the Same Path</p>  <p>3165 Foothill Road, Kalispell, MT 59901 swanview.org & swanrange.org ph/fax 406-755-1379 September 8, 2008</p> <p>Steve Brady – District Ranger SLRD 200 Ranger Station Road Bigfork, MT 59911</p> <p>Re: Comments on Hemlock Elk Environmental Assessment Submitted electronically to comments-northern-flathead-swan-lake@fs.fed.us</p> <p>Dear Ranger Brady;</p> <p>Please accept these comments into the formal record in the above matter, along with our inclusion of an August 12, 2008 Daily Inter Lake news article regarding relocation of a non-problem female grizzly bear from the Swan Valley to the Cabinet-Yaak Ecosystem (as a separate pdf).</p> <p>While we appreciate that Alternative D steers clear of clear-cutting and seed tree cuts, it nonetheless includes more acres of “fuels treatments” outside the Wildland Urban Interface than within it – as do the other action alternatives.</p>	<p>←1</p> <p>←2</p>	<p>Response to Comment #1: Thank you for your participation.</p> <p>Response to Comment #2: The Hemlock Project is aimed at fuels reduction, forest health, and providing for wood products. As stated in the EA, the project’s purpose and needs are to: 1) reduce the associated risk of high severity landscape wildfire risk within the WUI, 2) provide a safer environment for the public and firefighters should a wildfire occur, 3) increase the probability of stopping wildfires on NFS lands before they burn onto private lands, 4) restore and maintain forest health (restore historical tree species composition, structure and pattern), 5) reduce the growing risk for insects and disease infestation, and 6) provide wood products for local economies. The final Selected Alternative is a combination of all action alternatives that we feel best meets these purpose and needs. This alternative treats 223 acres within the WUI and 275 acres outside the WUI. Some regeneration harvest units described in Alternatives B and C are retained in the Selected Alternative. Please note</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter C-9. Keith Hammer, Swan View Coalition		Response
<p>We have read Friends of the Wild Swan’s September 8, 2008 letter of comment on this EA and concur with its findings. Rather than simply repeat those concerns here, we incorporate FOWS’s letter by reference.</p> <p>We also herein reaffirm all concerns raised in our February 27, 2008 letter regarding this project. The EA simply does not adequately address those concerns, either in its assessment of effects, disclosure of facts, or substantive changes to the proposed action.</p> <p>We will take a moment, however, to address further a couple issues regarding grizzly bear management and habitat in the Swan Valley and the project area:</p> <p>1. The assessment of the Existing Condition on page 3-176 is entirely non-scientific and unprofessional. It is intellectually dishonest to imply that all is well in the project area and NCDE simply because Kendall’s research has likely found more bears than previously documented with any degree of statistical certainty. The presence of more bears than estimated using</p>	<p style="text-align: center;">←3</p> <p style="text-align: center;">←4</p> <p style="text-align: center;">←5</p>	<p>that the Selected Alternative reduces harvest proposed in Sections 4 and 16 in response to issued raised during the comment period in regards to wildlife habitat concerns associated with adjacent PCTC harvest activities.</p> <p>Response to Comment #3: Please refer to our responses in the Friends of the Wild Swan Letter.</p> <p>Response to Comment #4: The Hemlock Elk EA is consistent with the Flathead Forest Plan and SVCBCA. Existing conditions and reasonably foreseeable activities, and proposed activities on wildlife were discussed in the EA. The wildlife analysis documented in the EA is a habitat-based analysis supported by scientific literature and the professional judgment of the District Wildlife Biologist.</p> <p>The Hemlock Project focuses on reducing fuels on NFS lands within the project area and on improving forest health within selected stands as described in the decision. Treatments on a landscape level will affect fire behavior, increase success of fire suppression and assist in protecting private property. They will also improve forest health conditions in specific stands within the suitable timber base while providing the social benefit of some wood products.</p> <p>Previous road management decisions in the project area has included seasonal and year round closures and decommissioning, which has reduced total and open road density compared to past conditions. The resulting road densities, without further reductions, were found to adequately balance environmental impacts of the road systems to meet applicable standards, while meeting access needs to adequately provide for a variety of administrative and social needs.</p> <p>Response to Comment #5: The Recovery Plan is still the formal document that outlines grizzly bear baseline data and actions needed for recovery. Recent DNA work in the NCDE by Kate Kendall of the USGS has recently produced a minimum identification of 563 individuals, exceeding the 1993 Recovery Plan. A News Release dated September 16, 2008, from USGS (Project File Exhibit F-63) states the following: “Based on our field studies and state-of-the-art genetic analysis, we are confident that our estimate of 765 grizzly bears residing in the study area in 2004 is solid, said Kate Kendall, USGS Scientist and lead researcher on the</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter C-9. Keith Hammer, Swan View Coalition		Response
<p>Recovery Plan methods does not mean that the NCDE or project area population is either robust or stable and able to sustain known levels of grizzly bear mortality.</p> <p>Until adequate population trend monitoring is completed, it is inappropriate to imply that all is well in the NCDE as a whole or that the project area or Swan Valley can sustain the mortality listed on page 3-177. Indeed, as discussed in detail in our prior letter, mortality exceeds sustainable levels in the both the northern Swan Mountains and the Swan Valley. The EA is entirely inadequate in assessing either the existing situation for grizzly bears or the effects of the action alternatives.</p> <p>2. Page 3-177 claims “most of the [grizzly bear] mortalities were management actions resulting from conflicts near human dwellings.” The EA makes no mention that policy nonetheless allows for the removal of non-problem bears from the Swan Valley in spite of acknowledgement that known mortality levels are already unsustainable.</p>	<p>←6</p>	<p>project.” “This is two and a half times the number of bears previously estimated to live in the area. The new information will allow us to better evaluate mortality rates.” This information is on an NCDE-wide basis. There is still awareness for the need for grizzly bear security within the project area specifically and the Forest as a whole. That is why the efforts are made within the project design to limit impact to security, and to manage roads consistent with the SVGBCA, as well as the Forest Plan. These standards are followed in both project design and in specific design criteria in the DN.</p> <p>Grizzly bear mortalities in the Swan Valley have occurred as a result of food conditioning and habituation and the ultimate removal from the population due to human safety concerns or as a result of poaching/illegal actions. To minimize the risk of human-grizzly conflicts in the Swan Valley, and in the Hemlock Elk Area, the Forest Service and local residents have become very active in providing information and educational programs on living in grizzly bear country and on food storage techniques. There is currently a multi-party monitoring/research effort being conducted in the SVGBCA area. The objective of the study is to gain information that will ultimately help landowners in the Swan Valley understand and mitigate human-caused grizzly bear mortality. The direct, indirect, and cumulative effects of the actions proposed in the Hemlock Elk Project have been considered. These actions will not reduce security for the grizzly bear. In consultation with the USFWS, a determination of “may affect, but not likely to adversely affect” was made and the USFWS concurred with this determination. The Selected Alternative will not reduce security for the grizzly bear.</p> <p>Response to Comment #6: In your comment, you mention the removal of non-problem grizzly bears from the Swan Valley. Since this has rarely occurred in the past, I will assume that you are referring to the August 8 removal of a sub-adult female grizzly bear from the Swan Valley. This bear was moved to the Cabinet-Yaak Ecosystem as part of a MTDFWP and USFWS grizzly bear population augmentation project. To augment the Cabinet Yaak population, grizzly bears are trapped and moved from other ecosystems with larger populations. Trappers target sub-adult female grizzlies without a history of human conflict. According to MTDFWP, trapping grizzlies can be a difficult endeavor, and catching an appropriate aged conflict-free female for augmentation is akin to finding a needle in a haystack.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter C-9. Keith Hammer, Swan View Coalition		Response
		<p>zone management, rotation of forest activities across the landscape, and site-specific habitat management), but they have voluntarily agreed to support efforts outside of traditional forest management in an effort to reduce the level of human caused grizzly bear mortality in the Swan Valley.</p> <p>The cooperating agencies in the SVGBCA, including the Forest Service, joined together in 2000 (MOU 2002) to monitor grizzly bears in the Swan Valley to better understand grizzly bear use and the effectiveness of the SVGBCA. The monitoring between 2000 and 2005 documented at least 27 different grizzly bears (determined via captures and collaring; additional bears are likely, but DNA data analysis is not yet complete). Of these 27 bears, 12 were fitted with satellite collars, with 10 of the grizzlies providing data for >1 month (Project File Exhibit C-9, Swan Valley Grizzly Bear Research & Monitoring Presentation, page 24). One of the results of the monitoring was the documentation of high levels of bear mortality in 2003 and 2004; 4 deaths each year, for a total of 8 confirmed deaths for the 2-year period (Project File Exhibit C-9, Swan Valley Grizzly Bear Research & Monitoring Presentation, page 37). For the period of 2000 through 2005, there were 11 total confirmed grizzly bear deaths (Project File Exhibit C-9, Swan Valley Grizzly Bear Research & Monitoring Presentation, page 37). The mortalities were due to human causes, <u>unrelated to timber management activities</u> (Project File Exhibit C-9, Swan Valley Grizzly Bear Research & Monitoring Presentation, pages 38, 40, and personal communication with Monitoring Team). In fact, this was particularly distressing to the cooperating agencies (Forest Service, DNRC, PCTC, MDFWP, and USFWS) that conducted the monitoring because, at first glance, the causes of mortality seemed to be outside the scope of the SVGBCA, which was initially set up to provide standards and guidelines for forest management practices that would conserve the bear and comply with the ESA.</p> <p>As a result of the monitoring results, the cooperating agencies came up with recommendations to address this human-caused mortality in the valley bottom, near homes and businesses: The recommendations included, (1) supporting an increased reward amount, since several mortalities were directly related to illegal poaching; (2) broaden efforts to educate and inform Swan Valley residents on how to live with bears, since several mortalities were directly related to sanitation problems on private land; (3) support bear-resistant sanitation; and (4) support continued grizzly bear monitoring (Project File Exhibit C-9, Swan Valley Grizzly Bear</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter C-9. Keith Hammer, Swan View Coalition		Response
<p>We reiterate the need for preparation of an Environmental Impact Statement that adequately addresses the issues raised above, in our prior letter submitted during “scoping” for this project, and in Friends of the Wild Swan’s letters in this regard.</p> <p>Sincerely, </p>	<p>←9</p>	<p>Research & Monitoring Presentation, page 40).</p> <p>Through the SVGBCA, the cooperating agencies have joined with private organizations (e.g., Defenders of Wildlife, etc.) to increase the reward amount for information leading to the arrest of bear poachers and to more aggressively pursue prosecution. The cooperators are supporting the Bear Aware Program in the Swan Valley and funding a Grizzly Bear Specialist (Bear Ranger) to work with local residents and MDFWP on informing residents, and enforcing State attractant laws. Sanitation efforts in the Swan Valley have been directly supported by the SVGBCA cooperators through the purchase of bear-resistant containers and by broadening collaborative efforts. In order to monitor the success of these efforts, funding has been recently secured to continue monitoring grizzly bears in the SVGBCA area beginning in 2008 and continuing for approximately 3 years.</p> <p>The analysis of cumulative effects, including mortalities in the Swan Valley is located in the EA on pages 3-177 through 3-183, in the BA, and in the Threatened and Endangered Species Cumulative Effects Worksheet (Project File Exhibit F-3). The direct, indirect, and cumulative effects of the actions proposed in the Hemlock Elk Project have been considered. These actions will not reduce security for the grizzly bear. In consultation with the USFWS, a determination of “may affect, but not likely to adversely affect” was made, and USFWS concurred with this determination.</p> <p>Response to Comment #9: The direct, indirect, and cumulative effects of the actions proposed in the Hemlock Elk Project have been considered. These actions will not reduce security for the grizzly bear. In consultation with the USFWS, a determination of “may affect, but not likely to adversely affect” was made and USFWS concurred with this determination. The direct, indirect, and cumulative effects associated with the Selected Alternative have been determined to be non-significant (see FONSI). The Selected Alternative has been determined to be consistent with Forest Plan direction. Therefore, an EIS is not required.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter C-9. Keith Hammer, Swan View Coalition		Response
Keith J. Hammer Chair Inclusion as pdf: August 12, 2008 Daily Inter Lake news article regarding relocation of a non-problem female grizzly bear from the Swan Valley to the Cabinet-Yaak Ecosystem.		

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>WildWest Institute P.O. Box 7998 Missoula, MT 59807 (406) 542-7343 info@wildwestinstitute.org Sept. 8th, 2008</p> <p>Hemlock Elk Project Steve Brady, District Ranger Swan Lake Ranger District, Flathead National Forest 200 Ranger Station Road Bigfork, MT 59911</p> <p>Cathy Barbouletos, Forest Supervisor Flathead National Forest 650 Wolfpack Way Kallispell, MT 59901</p> <p>Transmitted via email–please acknowledge receipt!</p> <p>To whom it may concern:</p> <p>The following are comments on the Flathead National Forest’s (FNF’s) Hemlock Elk Project from the WildWest Institute, The Lands Council and the Alliance for the Wild Rockies. We also incorporate by reference the comments submitted by the Friends of the Wild Swan and the Swan View Coalition.</p> <p>The Hemlock Elk Project does not represent the type of common ground project that has begun emerging from collaborative efforts around the state. The project conflates restoration of historic structure with fuel reduction for community protection, two goals which are clearly not congruent in the mesic, mixed conifer forests of the western side of the Swan Valley. It proposes 4.8 miles of new road construction in critical, and critically limited, remnant forest habitat used by a suite of important wildlife species such as grizzly bear, lynx, fisher, pine marten, elk and bull trout. It would harvest timber from mature and/or old growth forests, reducing the available habitat for these species now isolated to remnant patches of mature forest such as the FNF now proposes to log in what was a valley historically characterized by huge swaths of mature forest. It exceeds soil quality standards. Ultimately, this project embodies an increasingly controversial and outdated management paradigm that contributes to and capitalizes on public</p>	<p>← 1</p>	<p>Response to Comment #1: Please refer to Chapter 1 of the EA which discusses the historical, existing, and desired vegetative conditions of the Hemlock Elk Project Area in addition to the Purpose and Need of this project. The Hemlock Project is aimed at fuels reduction, forest health, and providing wood products.</p> <p>The Flathead Forest Plan embodies the provisions of the National Forest Management Act (NFMA), its implementing regulations, and other guiding documents. The Forest Plan sets forth in detail the direction for managing the land and resources of the Flathead National Forest. The applicable Forest Plan direction for the Hemlock Elk Project Area is described on page 3-8 of the EA. The characterization of management in which natural processes are the sole management influence is not a management emphasis for these</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>miseducation and relies on the suppression of natural processes and their subsequent replacement with intensive micromanagement. We believe that an Environmental Impact Statement, not an EA, is warranted to fully analyze and disclose the effects of this project.</p> <p>Fire, Forest Health & Fuels Treatments</p> <p>There are well known, effective measure which can be taken to protect homes and firefighting personnel from wildfire. We believe that the rationale for reducing fire risks is much better grounded in science and logic than the forest health portions of the proposal, and urge the Forest Service (FS) to limit the scope to the former in order to avoid most of the controversy and potential adverse cumulative effects inherent with logging to “improve forest health.” Please indicate in the EA which units have been placed, and whose vegetation treatments have been designed, for forest health specifically or for fuel reduction purposes for community protection from wildfire. While fuel reduction may occasionally accomplish both restoration/forest health goals and community protection goals of wildfire control, this is not often the case. This is especially true on the west side of the Swan Valley in the mesic, mixed conifer forests that populate it. Generally, the distinction between the two goals lies in the placement and the nature of the treatment to be implemented, one favoring more predictable and controllable fire behavior and the other emphasizing the restoration of ecological function. Therefore it is imperative that the public know which units are designed for forest health and which for community protection, or for both, if we are to be able to evaluate the logic and probable success of the FNF’s strategy for each respective goal.</p>	<p>← 2</p>	<p>lands.</p> <p>Several plans and other regulations also provide context to the management direction for these lands, which include the Missoula County Community Wildfire Protection Plan, the Seeley-Swan Fire Plan, the Northern Region Overview, and the Healthy Forests Restoration Act.</p> <p>Also important for you to recognize is the fact that the Flathead National Forest includes approximately 1 million acres of land (or nearly 50 percent of Forest total) in which the goal is to manage the area by “protecting the natural dynamic equilibrium associated with natural, complete ecosystems.”</p> <p>The intent is to move the landscape toward more sustainable conditions that allow natural processes to occur. Future treatments in these areas would be determined based upon specific needs at the appropriate time. Without treatment, the risk of losing these ecosystem components continues to increase. Allowing natural processes to return to the landscape is unrealistic, given the amount of human occupancy and property values within the area.</p> <p>Response to Comment #2: The recently completed Seeley Swan Fire Plan identifies hazardous fuels conditions for the Hemlock Elk Project Area and the Seeley Swan Fire Plan Region (Project File Exhibit Q-9). Within this plan, hazardous fuel on all land ownerships is displayed. Refer to the discussion of hazardous fuels on page 21 and Figure 6 on page 24 of the plan. We used this information as one of the criteria to cite treatments for this project.</p> <p>However, the Purpose and Need for the project is broader than solely fuels treatments around homes (or potential future homes). The development of alternatives also included the forest health considerations clearly stated in the Purpose and Need for the project. A complex variety of reasons affected actual unit selection with considerations such as old-growth, riparian areas, stand conditions, and a host of factors interplayed in the actual location of units selected. The EA discusses these factors at length.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>to the home ignition zone (i.e., within 30 m of the home). However, the factors contributing to home ignition within this zone have not been mitigated. Given a wildfire, wildland fuel management alone (i.e., outside the home ignition zone) is not sufficient nor does it substitute for mitigations within the home ignition zone. ...It is questionable whether wildland fuel reduction activities are necessary and sufficient for mitigating structure loss in wildland urban fires.</p> <p>Thus it would be of utmost importance, from a firesafe perspective, for actions to be focused primarily where they would do the most good, reducing the ignitability of privately owned structures, and planning for access into away from residences in the interface area. One recent scoping letter on another National Forest stated:</p> <p>Homes are lost in wildfires because of two reasons: direct contact by flames or the heat from flames and from firebrands that are lofted into the air and land in a receptive fuel bed (e.g. woodpile, pine needles in a rain gutter, wood shingles or decks). Hazardous fuel treatments can reduce fire behavior, but no realistic treatment can completely eliminate the potential for a wildfire to burn in a given area. Therefore, it is very important that landowners address the fuels on their land and around their homes to minimize the impacts from a wildfire. Information on making your home “Firewise” can be obtained at www.firewise.org.</p> <p>(Kootenai River North scoping notice, Kootenai NF).</p>		<p>fully meet the intent of breaking up fuel continuity generally within the project area to allow firefighters to more safely, tactically, and strategically address a fire in the interface area. This would limit the ability of fire fighting efforts to more effectively and safely fight a fire in the area as a whole.</p> <ul style="list-style-type: none"> • Such an approach would leave significant areas of fuel buildup and dense canopies with ladder fuels within the WUI. As described above, leaving such stand conditions untreated would limit options that firefighters would have for safely stopping a moving fire within the interface area, and would leave many areas where crown fire potential could have been reduced within the urban interface. Bypassing the opportunity to treat such areas would not be consistent with the purpose of the project. • Research has determined that treatments intended to reduce fuels around communities at risk, rather than individual structures, need to go beyond the home ignition zone (Graham 2004). While individual home-by-home treatments can help reduce the risk of loss of individual homes, relying solely on such treatments would forego strategic opportunities for controlling fires within this WUI. • Limiting treatments to a smaller area immediately adjacent to homes or structures would only allow for a small subset of the interface area to be treated in the project area. In addition, it would not meet the broader purpose of the proposal in treating fuels in the WUI. • The proposed fuel reduction treatments are consistent with management actions recommended in the Seeley-Swan Fire Plan (2004) for defensible space around individual homes, reduction of fuels at the neighborhood or subdivision level, and the thinning and biomass removal in the landscape adjacent to WUI to help limit wildfire intensity and rate of spread (Project File Exhibit Q-9). <p>Treatment solely within close proximity to homes also would not meet the Purpose and Need to improve and/or maintain the general forest, resiliency, and sustainability of stands within the project area. This approach would focus solely on fuel reduction in the immediate vicinity of homes. The Purpose and Need of this project is not limited solely to fuel reduction. This alternative would not address broader forest health and stand conditions, which are an intrinsic part of the Purpose and Need of this project.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>WUI fire losses need only occur within a few tens of meters from a home, not hundreds of meters or more from a home. This research indicates that home losses can be effectively reduced by focusing mitigation efforts on the structure and its immediate surroundings. Those characteristics of a structure’s materials and design and the surrounding flammables that determine the potential for a home to ignite during wildland fires (or any fires outside the home) will, hereafter, be referred to as home ignitability.</p> <p>The evidence suggests that wildland fuel reduction for reducing home losses may be inefficient and ineffective. Inefficient because wildland fuel reduction for several hundred meters or more around homes is greater than necessary for reducing ignitions from flames. Ineffective because it does not sufficiently reduce firebrand ignitions.</p> <p>That research also recognizes “the imperative to separate the problem of the wildland fire threat to homes from the problem of ecosystem sustainability due to changes in wildland fuels” (Id.). In regards to the latter—ecosystem sustainability—Cohen and Butler (2005) state:</p> <p style="padding-left: 40px;">Realizing that wildland fires are inevitable should urge us to recognize that excluding wildfire does not eliminate fire, it unintentionally selects for only those occurrences that defy our suppression capability—the extreme wildfires that are continuous over extensive areas. If we wish to avoid these extensive wildfires and restore fire to a more normal ecological condition, our only choice is to allow fire occurrence under conditions other than extremes. Our choices become ones of compatibility with the inevitable fire occurrences rather than ones of attempted exclusion. (Emphasis added.)</p> <p>The EA states that firefighter safety is a concern to be addressed. It is hard to understand, however, how the proposal would alter specific fire suppression tactics that might be employed in any set of likely fire scenarios.</p> <p>The FS proposes making this project a part of a wider, continuing fire suppression strategy without consideration of sensible wildland fire use. Cohen and Butler believe that such policies have been shown to actually elevate the odds for the type of extreme fire events the Proposed Action vilifies. Cohen and Butler (2005) made recommendations regarding fuel treatment in an interface zone in the Boulder River canyon on the Gallatin NF. Based upon research, and investigation following other instances of wildland fire, they specify the need to focus primarily on the HIZ, stating: “(W)e cannot mitigate a</p>	<p>← 11</p>	<p>Response to Comment #11: The project does not propose “fuelbreaks” around communities, rather focuses on reducing the fuel loading and stand densities to change fire behavior and reduce the potential for large scale wildfire. The analysis indicates that the treatments would reduce both flame lengths and rate of spread, two critical factors in determining the “resistance to control.”</p> <p>Reducing active crown fires would be achieved through the number of</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>highly vulnerable HIZ with fuel reduction activities beyond the HIZ; a highly vulnerable HIZ remains highly vulnerable even when surrounded by a fuel break. ...The high intensity wildfire has no direct flame effect on the building ignition potential outside the HIZ.”</p> <p>To the degree that this proposal focuses on dead and dying trees, it is not about reducing crown fires. Cohen and Butler (2005) note that dead trees that have lost their needles pose minimal crown fire risk as compared to trees with canopy intact—live or dead:</p> <p>When needles fall from the tree canopy the tree loses the principal crown fire fuel. These needles are now part of the more compact and much less intensively burning surface fuel bed. Thus, the crown fire spread is impeded at this location. Primary attention for removing insect killed trees that retain their needles should occur within the HIZ and in any areas where intense fire behavior will produce a life safety concern (falling dead trees usually do not become a problem until after the needles have dropped.)</p> <p>Cohen and Butler (2005) explain the “life safety” concept, defining it as “...about preventing fatalities during an extreme wildfire that includes all reasonable options.” The researchers focus on the need to treat fuels to reduce potential extreme case fire intensity along evacuation routes. Beyond these evacuation routes and the HIZ, these researchers indicate no need to focus on fuel reduction for life safety reasons in the CPZ.</p> <p>Please consider that thinning can result in faster fire spread than in the unthinned stand. Graham, et al., 1999a point out that fire modeling indicates:</p> <p style="padding-left: 40px;">For example, the 20-foot wind speed¹ must exceed 50 miles per hour for midflame wind speeds to reach 5 miles per hour within a dense Stand (0.1 adjustment factor). In contrast, in an open stand (0.3 adjustment factor), the same midflame wind speeds would occur at only a 16-mile-per-hour wind at 20 feet.</p> <p>Cohen and Butler (2005) state similarly for fuel reduction along road corridors:</p>	<p style="text-align: center;">← 12</p> <p style="text-align: center;">← 13</p>	<p>treatments that focus on reducing overall stand density, which is the majority of treatments in the action alternatives. Reducing stand density in conjunction with reducing ground and ladder fuels all contribute towards reducing the potential for an extreme wildfire to occur.</p> <p>Response to Comment #12: This concept is not applicable to this project, in that the stated Purpose and Need is not to prevent fatalities during an extreme wildfire; rather it is focused on reducing the potential for this type of wildfire to occur at all.</p> <p>Response to Comment #13: The EA discloses the effects of the proposed activities on pages 3-99 through 3-116. The thinning activities include treatment of the activity fuels created, as is recommended in the literature you cite.</p> <p>The proposed fuel reduction techniques focus on reducing the potential for crown fires and high intensity surface fires, and thus reducing resistance to control. By removing understory trees it would also increase the canopy base height, making it more difficult for crown fire initiation. The thinning would primarily focus on removing the smaller trees and species that are less resistant to fire, leaving larger, fire resistant (seral) species where possible.</p>

¹ Velocity of the wind 20 feet above the vegetation, in this case tree tops.

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>It should be noted that areas of such fuel reduction become windier and drier in the surface fuels. The fuel reduction significantly decreases the overall fire intensity along both sides of the road but does not prevent fire occurrence and may enhance surface spread. (Emphasis added.)</p> <p>Graham, et al., 1999a also state:</p> <p>Depending on the type, intensity, and extent of thinning, or other treatment applied, fire behavior can be improved (less severe and intense) or exacerbated.” ... Fire intensity in thinned stands is greatly reduced if thinning is accompanied by reducing the surface fuels created by the cuttings. Fire has been successfully used to treat fuels and decrease the effects of wildfires especially in climax ponderosa pine forests (Deeming 1990; Wagel and Eakle 1979; Weaver 1955, 1957). In contrast, extensive amounts of untreated logging slash contributed to the devastating fires during the late 1800s and early 1900s in the inland and Pacific Northwest forests.</p> <p>In their conclusion, Graham, et al., 1999a state:</p> <p>Depending on intensity, thinning from below and possibly free thinning can most effectively alter fire behavior by reducing crown bulk density, increasing crown base height, and changing species composition to lighter crowned and fire-adapted species. Such intermediate treatments can reduce the severity and intensity of wildfires for a given set of physical and weather variables. But crown and selection thinnings would not reduce crown fire potential.</p> <p>Since the scientific literature suggests that the thinning from below activities, especially in mesic forest types like those found in the project area, will actually increase the rate of fire spread without reducing crown fire potential, the EA must reconcile this and other factors that will actually increase some aspects of fire risk to people or ecosystem components and processes, such as the short-term risk of activity fuels until final treatment.</p> <p>The FS must disclose its detailed long-term program for maintaining the conditions of reduced fire risk, including how areas will be treated in the future following proposed treatments, or how areas not needing treatment now will be treated as the need arises. The public at large, and private landowners, must understand the implications of the long-term efforts, including the amount of</p>	<p style="text-align: center;">← 14</p>	<p>The overall rate of spread, as well as the flame lengths will be reduced as a result of the treatments, providing a greater likelihood that the fire can be managed with ground forces, reducing the potential for the fire to become extreme.</p> <p>Response to Comment #14: The intent is to move the landscape toward more sustainable conditions that allow natural processes to occur. Future treatments in these areas would be determined based upon specific needs at the appropriate time. Without treatment, the risk of losing these ecosystem components continues to increase. Allowing natural processes to return to the</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>funding necessary, and the likelihood based on realistic funding scenarios for such a program to be funded both adequately and in a timely manner.</p> <p>The Proposed Action, as noted above, brings into the proposed project’s scope “forest health” issues, which is problematic. This is mainly because of the scientific controversy, discussed in many scientific publications, that suggest proposed efforts in “preventing mortality from insects and disease” is anti-ecological and ultimately damaging to the health of the ecosystem. Although there are many scientific articles we can directly cite that elucidate this point, we only include a few since we anticipate greater opportunities in upcoming public involvement phases for this project, and now merely request that your Proposed Action scope be limited to reducing fire risk for evacuation routes and around homes.</p> <p>Cherry (1997) states:</p> <p style="padding-left: 40px;">The black-backed woodpecker appears to fill a niche that describes everything that foresters and fire fighters have attempted to eradicate. For about the last 50 years, disease and fire have been considered enemies of the ‘healthy’ forest and have been combated relatively successfully. We have recently (within the last 0 to 15 years) realized that disease and fire have their place on the landscape, but the landscape is badly out of balance with the fire suppression and insect and disease reduction activities (i.e. salvage logging) of the last 50 years. Therefore, the black-backed woodpecker is likely not to be abundant as it once was, and continued fire suppression and insect eradication is likely to cause further decline.</p> <p>(Emphasis added.) Also, Dudley & Vallauri, 2004 state:</p> <p style="padding-left: 40px;">The most threatening pest for forest managers is the bark beetle and deadwood is often blamed for allowing the bark beetle to infest forests. In fact the evidence suggests that reasonable levels of dead trees are no danger for the forest. On the contrary, several studies seem to show that they shelter a significant group of parasitoids and predators, which more or less control the populations of pests. Although bark beetle numbers increase near significant numbers of fallen logs, research found little evidence for increased tree death as a result, mainly because the species attracted are already highly specialized to dead timber.</p> <p>Any attempt to offset the cost of noncommercial fuel treatment by selling larger</p>	<p>← 15</p>	<p>landscape is unrealistic, given the amount of human occupancy and property values within the area.</p> <p>Response to Comment #15: Please read the black-backed woodpecker analysis on pages 3-197 through 3-200 in the EA. In the woodpecker analysis in the section under Existing Condition, it states “Habitat for the black-backed woodpecker is abundant and well distributed across the Northern Region and by Forest (Samson 2005, USDA 2007).”</p> <p>“A Conservation Assessment of the Northern Goshawk, Black-backed Woodpecker, Flammulated Owl, and Pileated Woodpecker in the Northern Region, USDA Forest Service” Samson (2005, amended March 6, 2006) demonstrates that the Northern Region and the Flathead National Forest provide for the diversity of plant and animal communities for those species listed above.</p> <p>In addition, Project File Exhibit F-11 “Flathead National Forest Evaluation and Compliance with NFMA Requirements to Provide for Diversity of Animal Communities,” addresses the natural history, population, habitat and distribution of wildlife species found on the Flathead National Forest. This document discusses the threats to the black-backed woodpecker, conservation measures in place to address those threats, and an evaluation of the species at the Forest and Regional level. The effects of fire suppression on the black-backed woodpecker are discussed in the Cumulative Effects Worksheet, Project File Exhibit F-4.</p> <p>The EA also describes how Forest Plan standards for the retention of snags and down woody debris would be met in the project area (EA, pages 3-215 through 3-220).</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>they impose assumed natural or desired future conditions on a landscape already heavily impacted by past management impositions.</p> <p>Many adverse consequences to soil, ecological processes, wildlife, and other elements of the natural environment are associated with logging, including thinning. (Ercelawn, 1999; Ercelawn, 2000.) For example: “Salvage or thinning operations that remove dead or decayed trees or coarse woody debris on the ground will reduce the availability of forest structures used by fishers and lynx.” (Bull et al., 2001.) Also, Rhodes, 2007 examines the effects on watersheds and aquatic resources from forest fuel reduction treatments aimed at modifying wildland fire behavior on public lands. He states:</p> <p style="padding-left: 40px;">Such treatments have been promoted in some scientific assessments and recent public forest policy and legislation for extensive implementation on Western public lands in an attempt to reduce fire severity and size by altering fuel levels, character, and continuity. ...Proponents assert that these treatments, when effective, benefit watersheds because higher-severity fire can sometimes trigger severe soil erosion and elevated peakflows. However, fuel treatments will not always provide these benefits to watersheds, because they are not universally effective in reducing fire severity, restoring fire regimes, or reducing the ecological effects of higher-severity fire. ... Mechanized fuel treatments also incur ecological costs by damaging soils, vegetation and hydrologic processes, as proponents of fuel reduction treatments have acknowledged. Mechanical fuel reduction treatments typically involve the same suite of activities as logging, with the same set of impacts to soils, runoff, erosion, sedimentation, water quality, and stream structure and function. These effects, their mechanisms, and their aquatic impacts have been extensively and repeatedly documented across the West. Watershed damage ultimately translates into aquatic damage. The collateral impacts of fuel treatments are of considerable concern due to the existing aquatic context. (Internal citations omitted).</p>	<p>← 18</p>	<p>Response to Comment #18: Thank you for the information. Fisher and its associated habitat is discussed in the EA, pages 3-201 through 3-205. Lynx and its associated habitat is discussed in the EA from pages 3-161 through 3-170. Included in the Design Criteria in the Hemlock Elk DN, Appendix 2, are objectives that pertain to the maintenance of woody debris for nesting, feeding and denning habitat for species such as the fisher and lynx.</p> <p>The potential effects of the proposed activities on Water Resources were discussed in the EA on pages 3-127 through 3-139. The EA on page 3-129 describes in detail how the measurement indicator channel stability was used to evaluate the overall aquatic health of streams within the three watersheds of the Water Resources Cumulative Effects Analysis Area for the Hemlock Elk Project. Fifteen individual conditions of a stream are assessed by this process. Many reflect the parent geology of the watershed, and the vegetation adjacent to the stream. Others focus on visible changes in stream channel conditions, such as increased fine material in pools. As the EA states on page 3-130, these channel stability surveys are most useful when used to document trends, therefore repeated over time. These trends are most useful for an assessment of potential effects of a management proposal when compared to modeled water yield values. Within the Hemlock Elk Analysis Area, 15 surveys have been conducted from 1976 to the summer of 2006 so comparisons could be made for longer-term trends.</p> <p>Past changes to vegetative cover resulting from land conversions, forest harvesting, and road building and the effects to water resources is also discussed throughout the Water Resources Section of the EA.</p> <p>Cumulative effects of past, present, and current activities combined with proposed activities is displayed in the EA on pages 3-132 through 3-139. The Cumulative Effects Worksheet (Project File K-15) also considers and describes effects of proposed activities in addition to the past, current, and reasonably foreseeable activities in more detail within the Hemlock Elk Cumulative Effects Analysis Area.</p> <p>The Fisheries Section analyzed the potential effects of the fuel and vegetation treatments, temporary roads, and resource enhancements to Fisheries in Cold, Elk, and Glacier Creeks (EA, pages 3-141 through 3-159). The Selected</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>regeneration timber harvested and fuels have been treated (prescribed burning and machine piling of slash with pile burning). These previously managed areas are considered to be in a Condition Class 1.</p> <p>The EA describes Condition Class 1 as “Fire regimes are within a historical range, and the risk of losing key ecosystem components is low. Vegetation attributes are intact and functioning within a historical range. No fire return intervals have been missed.” The paradox created by the use of FRCC should be made obvious by this statement. First, many forest stands regenerating from past harvest are highly susceptible to stand replacement, severe wildfire due to residual slash, high stand densities, homogeneous age/size structure, continuous canopies with high bulk density, low ground to crown base distance, and lack of large, fire resistant structures. This is inconsistent with their classification as FRCC 1, if the FRCC system is a valuable predictor of future fire behavior. Secondly, how can it be said that these previously harvested areas are “intact and functioning within a historical range” without presenting some supporting evidence of this?</p> <p>Even where certain areas have been successfully shown to fall outside the range of historic variability, an assessment of the likely long term effects of the proposed treatments should be included. Kolb et al (2007) continue:</p> <p>Second, many old-growth forests in the western U.S. are located in remote areas, where management often causes unavoidable disturbances, such as road construction, soil compaction, and exposure to mineral soil. Even in areas where old-growth forests are clearly outside their range of natural variability the pros and cons of management need to be carefully weighted. For instance, road construction and subsequent increased access could increase invasive species (Korb, 2001), decrease native species diversity, alter fire regimes, or change resource availability (Levine et al., 2003). Third, financial costs of management treatments in old-growth forests can be high because of the careful attention required to individual trees. Finally, while long-term monitoring data is lacking, increasing evidence suggests that disturbance associated with harvesting may increase recruitment and density in the long-term, which could be counter productive (Minnich et al., 1995; Kaufmann et al., 2000). For instance, in an ongoing study across Montana and central Idaho, tree density in never-logged ponderosa pine stands not subjected to fire for the last 60 years was on average over 40% lower than in paired stands (n = 23 pairs) that had been subjected to historical logging (Naficy and Sala, unpublished data). These results serve only to highlight the need to consider long-term effects of disturbance, and the need</p>	<p>← 25</p>	<p>Response to Comment #25: Proposed treatments within the project area were based on existing research within the Upper Swan Landscape such as “The Upper Swan Landscape Assessment” and “Fire History and Fire Regimes in the Upper Swan Valley.” Long-term effects to vegetation, especially fire adapted species, will be monitored with scheduled exams and maintenance activity will be proposed and implemented as budgets allow.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>Many today believe that fire severity in present-day dry forests throughout the West is unprecedented. Indeed, the impetus behind the Healthy Forests Restoration Act (HFRA) is the idea that the structures, habitats, and disturbance regimes of present-day western dry forests are inconsistent with pre-management era conditions. There is credible scientific evidence to back up much of that claim; landscape evaluations conducted in the western US point to anthropogenic causes along with climatic signal shifting. However, the HFRA tacitly incorporates a notion that dry forests of the western US are synonymous with frequent low severity fires, and that conditions supporting such fires should be widely restored. The evidence for this latter assertion is less well established. Our results suggest that low, mixed, and high severity fires each occurred in dry (and moist) mixed conifer forests of eastern Washington. The scope of management and restoration activities could be broadened to not only accept many such wildfire effects, but to manage for them. This should be good news for forest managers because it suggests that some contemporary wildfire effects will meet management objectives, and a broader suite of forest structural conditions and a broader range of patch sizes supported native fire regimes of mixed conifer forest.... When formulating the study, we hypothesized that where stable equilibria were operating, those patches would be dominated by persistent, stable structures featuring old, fire-tolerant park-like or similar stands, as the literature suggested. Instead, area was dominated by forest structures that were intermediate between new and old forests, i.e., by pole to medium sized, rather than large trees. This observation suggested that before any extensive management had occurred, the influence of fire in the dry forest was of a frequency and severity that intermittently regenerated rather than maintained large areas of old, fire tolerant forest.... Even when considering old multi-story or single story forest structures in isolation, most old forest area was apparently under the influence of mixed rather than low severity fire.</p> <p>The FNF does not appear to recognize these ideas which are so critical to the success of restoration endeavors in complex mixed severity fire regimes in mixed conifer forests. Nor does the EA disclose the uncertainties and risks associated with its chosen management paradigm that ignores this information. Instead it promotes the idea that its management strategy is well established practice that is overwhelmingly likely to result in the net positive benefits to wildlife species and ecosystem function that is claimed by the FNF. This is dishonest and misleading. The FNF's management paradigm can best be summarized as an attempt to hinder the natural processes (i.e. through continued fire suppression) which have historically formed vegetation and habitat characteristics and replace</p>		

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>them with desired conditions which lack any site specific data but are based, rather, on loose and suspect associations (PVGs) and that are maintained by the foregone conclusion that intensive management by commercial logging and prescribed burning is necessary to restore “historic” conditions and processes. Despite more than 100 years of forest management by the Forest Service, this type of “emulation forestry” has not been validated, or even evaluated, as an effective strategy for maintaining the long term maintenance of biodiversity and ecosystem function. The failure to disclose the uncertainties and potential risks associated with this paradigm and the failure to evaluate alternative strategies that could be employed to accomplish the restoration and forest health goals of the project represents a failure to comply with NEPA and a violation of both the APA and NFMA.</p> <p>Hayward, 1994 states:</p> <p style="padding-left: 40px;">Despite increased interest in historical ecology, scientific understanding of the historic abundance and distribution of montane conifer forests in the western United States is not sufficient to indicate how current patterns compare to the past. In particular, knowledge of patterns in distribution and abundance of older age classes of these forests is not available. ...Current efforts to put management impacts into a historic context seem to focus almost exclusively on what amounts to a snapshot of vegetation history—a documentation of forest conditions near the time when European settlers first began to impact forest structure. ...The value of the historic information lies in the perspective it can provide on the potential variation... I do not believe that historical ecology, emphasizing static conditions in recent times, say 100 years ago, will provide the complete picture needed to place present conditions in a proper historic context. Conditions immediately prior to industrial development may have been extraordinary compared to the past 1,000 years or more. Using forest conditions in the 1800s as a baseline, then, could provide a false impression if the baseline is considered a goal to strove toward.</p> <p>Baker et al., 2006 note:</p> <p style="padding-left: 40px;">In Montana, tree-ring studies show that some ponderosa pine–Douglas fir forests had infrequent high-severity fires as well as more frequent low-severity fires (Barrett, 1988; Arno et al., 1995b, 1997). The area of these forests from eastern Montana to northeastern Wyoming, including the Black Hills, appears to have had variable fire severity, based on historical and tree-</p>	<p>← 28</p>	<p>Response to Comment #28: The use of historical context is focused primarily on the vegetation structure and composition when fire was a naturally occurring component of the ecosystem. This is well documented in the literature, and provides the baseline for comparing existing vegetation conditions that have developed absent this type of disturbance.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>ring evidence (Shinneman & Baker, 1997; Arno & Allison-Bunnell, 2002). Forest-reserve reports also indicate that mixed- and high-severity fire (Fig. 4) occurred in pure ponderosa pine forests from Idaho to Colorado and in mixed ponderosa pine–Douglas fir forests.</p> <p>It has long been known that logging of large overstorey trees in ponderosa pine forests can lead to a pulse of tree regeneration, often concentrated within one to a few decades after logging, and this pulse, if it occurs, can later become a dense, young understorey in the forest (Curtis & Wilson, 1958; Smith & Arno, 1999).... Many ponderosa pine–Douglas fir forests had been high-grade logged by about ad 1900 (e.g. Graves, 1899; Romme et al., 2000), leading to potential tree-density increases during recovery, a process that continues today.</p> <p>On the confounding effects of livestock grazing and other effects, and addressing the commonly expressed notion that logging can restore these forests to more natural “historic conditions”, the authors state:</p> <p style="padding-left: 40px;">Because multiple explanations exist for the presence and abundance of young, shade-tolerant trees, these trees need to be dated and linked definitively to a particular land use (e.g. livestock grazing, logging, fire exclusion) before their removal is ecologically appropriate in restoration, and so that the correct land use, as discussed later, can be modified.</p> <p style="padding-left: 40px;">...Identification of which land uses affected a stand proposed for restoration is essential. Fire exclusion, logging and livestock grazing do not have the same effects on these forests, their effects vary with environment, and they require different restoration actions. Before restoration begins, it makes sense to modify or minimize the particular land uses that led to the need for restoration, to avoid repeating degradation and ongoing, periodic subsidies that merely maintain land uses at non-sustainable levels (Hobbs & Norton, 1996). For example, thinning an overgrazed forest, without restoring native bunchgrasses lost to grazing, may simply lead to a new pulse of tree regeneration that will have to be thinned again.</p> <p>Those authors caution that:</p> <p style="padding-left: 40px;">...the modern occurrence of extensive and severe fires in the Rocky Mountains should not be perceived as outside the historical range of variability for ponderosa pine–Douglas fir forest forests, and should not</p>		

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>trigger efforts to create forest structures that would exclusively support low-severity fires.</p> <p>In fact, the scoping notice is full of misguided suggestions to the effect that management can manipulate natural processes to arrive at predictable outcomes. This notion ought to have been by now eliminated from public land managers' world view simply because the failure of the old paradigm is quite evident from the lists of threatened and endangered species and damaged watersheds, the increased fire risk and out-of-whack ecosystems from fire suppression, the invasions of exotic species, and agency budgets strained to the breaking point trying to deal with the accrued damages caused by this "manipulate and control" paradigm.</p> <p>Regarding the mismanagement of fire by this "manipulate and control" paradigm (this mismanagement being identified as a driver for this Proposed Action), Wuerthner (2006a) states:</p> <p style="padding-left: 40px;">The industrial/anthropocentric perspective believes that humans can and must control processes such as fire. It also tends to believe that natural processes are mechanical and that they respond to human tinkering much like a machine. Ultimately, the industrial/anthropocentric perspective on wildfire negatively affects the health and well-being of the environment.</p> <p>Wuerthner (2006a) identifies several reasons why management based upon a world view—unfortunately still pervasive in the Hemlock Elk proposal—is simply not sustainable.</p> <p>Frissell and Bayles (1996) reinforce our point about land managers' hubris:</p> <p style="padding-left: 40px;">Most philosophies and approaches for ecosystem management put forward to date are limited (perhaps doomed) by a failure to acknowledge and rationally address the overriding problems of uncertainty and ignorance about the mechanisms by which complex ecosystems respond to human actions. They lack humility and historical perspective about science and about our past failures in management. They still implicitly subscribe to the scientifically discredited illusion that humans are fully in control of an ecosystemic machine and can foresee and manipulate all the possible consequences of particular actions while deliberately altering the ecosystem to produce only predictable, optimized and socially desirable outputs. Moreover, despite our well-demonstrated</p>	<p>← 29</p>	<p>Response to Comment #29: The Purpose and Need was clearly articulated in the EA, pages 1-1 through 1-4. The characterization that the Proposed Action is the same as the past activities that led to current conditions is not supported by the fact that the proposed activities are not the same. The timber harvest prescriptions, treatment of fuels, application of BMP's, and associated Design Criteria are different than past activities and are proposed to meet the Purpose and Need for the area. The applicable Forest Plan direction for the Hemlock Elk Project Area is described on page 3-8 of the EA. The characterization of management in which natural processes are the sole management influence is not a management emphasis for these lands. The proposed action is consistent with Forest Plan direction for these areas. Also important for you to recognize is the fact that the Flathead National Forest includes approximately 1 million acres of land (or nearly 50 percent of Forest total) in which the goal is to manage the area by "protecting the natural dynamic equilibrium associated with natural, complete ecosystems."</p> <p>Fire suppression is consistent with Forest Plan direction and will continue to be a management tool the Flathead National Forest implements.</p> <p>The intent is to move the landscape toward more sustainable conditions that allow natural processes to occur. Future treatments in these areas would be determined based upon specific needs at the appropriate time. Without treatment, the risk of losing these ecosystem components continues to increase. Allowing natural processes to return to the landscape is unrealistic, given the amount of human occupancy and property values within the area.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>inability to prescribe and forge institutional arrangements capable of successfully implementing the principles and practice of integrated ecosystem management over a sustained time frame and at sufficiently large spatial scales, would-be ecosystem managers have neglected to acknowledge and critically analyze past institutional and policy failures. They say we need ecosystem management because public opinion has changed, neglecting the obvious point that public opinion has been shaped by the glowing promises of past managers and by their clear and spectacular failure to deliver on such promises.</p> <p>(Emphasis added.)</p> <p>The question of whether the proposed treatments are even consistent with the primary relevant purpose and need of the project to “restore and maintain forest health (restore historical tree species composition, structure, and pattern)” must ultimately also be judged by the congruency of the proposed treatments with the purported changes that have occurred, which in this case the FS identifies as fire suppression, primarily in unmanaged stands. What structural / compositional changes, specifically, is fire suppression likely to have caused? Logging treatments should not cut down any trees that predate the fire suppression era in the Upper Swan Valley, which began in the 1930s and may not have been effective until the 1950-1960s. Therefore, to be consistent with the FNF’s own goals/purpose and need for the Hemlock Elk project, the proposed restoration treatment should not remove trees older than ~ 50 years old or ~ 80 years old at the very most. Yet it appears from the EA, although this information is not explicitly provided that the FNF intends to cut down many trees older than this. The FNF should provide the public with greater information of the age/size of trees to be harvested under the guise of restoration.</p> <p>Old Growth & Species Viability</p> <p>The EA does not make clear how old growth was identified. All harvest units should be surveyed to assess whether they meet old growth criteria.</p>	<p>← 30</p>	<p>Response to Comment #30: As stated in the EA, old growth in the project is defined by Green et al. (2005) for the Western Montana Zone. The Silvicultural Report (Project File Exhibit H-1) includes the minimum and associate characteristics used to make old growth determinations. Stand inventories and subsequent review by the District Silviculturist and Wildlife Biologist were conducted to confirm that no actions associated with this project are proposed within stands that meet the Green et al. (2005) definition of old growth (EA, page 3-45). Field surveys were done for every stand that</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>The EA acknowledges the great change to old growth forest, old growth associated species habitat, and many MIS/TES species within the project area as a result of past timber harvest and other human activities. However, the impacts of these changes on wildlife populations, current population trends, or cumulative effects are dismissive and inadequate.</p>	<p style="text-align: center;">← 31</p>	<p>appeared to be close to the minimum criteria and for all stands where stand replacement was proposed (e.g., Seed Tree harvest) (EA, page 3-188).</p> <p>Response to Comment #31: The Hemlock Elk EA describes existing conditions and reasonably foreseeable activities, and proposed activities and their effects on wildlife on pages 3-161 through 3-235.</p> <p>Habitat conditions for old growth associated species in the analysis area were analyzed and discussed in the EA (pages 3-185 through 3-195). The analysis for old growth associated wildlife species does not indicate that the project area is not currently meeting the needs of old growth associated species. The analysis acknowledges that the mature forest patch sizes have decreased over time and are more fragmented; however, the analysis goes on to demonstrate that the effects from the proposed project would not be significant.</p> <p>It is the intention of the Forest Service that the treatments proposed, over time, should increase old growth patch size. We believe that the prescriptions used are more likely to move the treated stands in the area to healthier more resilient conditions than currently exists. Consistent with the Purpose and Need for the proposal, this would leave more stands in a condition to move toward (or maintain) old growth attributes than the No Action Alternative. The stands treated will also be less susceptible to stand replacement fire under a wider range of future fire conditions.</p> <p>We do not believe the proposed treatments eliminate habitat connections. Most of the treatments retain significant amounts of vegetation and will continue to serve as potential corridors for wildlife traveling between various habitats.</p> <p>The EA discusses habitat conditions throughout the Wildlife Section of the document. There is existing vegetative cover across the landscape, on NFS lands, private ownership, and other private corporate lands (PCTC). Only the Clearcut, Patch Clearcut, and Seed Tree harvest units will create openings that will not provide hiding cover for wildlife. Intermediate harvest units will still retain canopy cover following treatment. Snag retention and down woody material standards directed in Forest Plan Amendment 21 will be implemented in the Selected Alternative authorized in the DN (See Design Criteria – Appendix 2).</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>At issue here is the health and viability of wildlife populations, since this is the functional importance of old growth in the context of this project. Therefore, the old growth analysis and analysis of project impacts to old growth associated species must center around habitat for old growth associated species, not just old growth itself. In a landscape where old growth has been so heavily preyed upon by the FS and little now remains, the old growth associated species' habitat should clearly be the emphasis of all analysis of present and cumulative project effects. This is a significant flaw in the Hemlock Elk EA, which restricts its analysis to old growth stands meeting Green et al criteria.</p>	<p style="text-align: center;">← 32</p>	<p>The analysis of sensitive species included a discussion of existing habitat and habitat conditions for the different species, which may be found within the project area (EA, pages 3-197 through 3-213). Determinations were made on whether significant impacts would occur. Habitat conditions for snag and down woody dependent species in the analysis area were analyzed and discussed in the EA (pages 3-215 through 3-220). The wildlife analysis also included discussion of Forest Management Indicator Species and migratory birds (EA, pages 3-221 through 3-235). After a discussion of existing conditions for these species and the environmental consequences of implementing the Hemlock Elk Project, it was determined that no significant population impacts would be triggered as a result of the proposed actions.</p> <p>The project file contains the document, “Flathead National Forest Evaluation and Compliance with NFMA Requirements to Provide for Diversity of Animal Communities” (Project File Exhibit F-11), which addresses the natural history, population, habitat, and distribution of wildlife species that can be found on the Flathead National Forest. This document discusses the threats to the different species, conservation measures in place to address those threats, and an evaluation of the current situation for the different species at the Forest and Regional level. This information is useful in the analysis of impacts to species and populations from proposed activities to determine whether impacts may be significant or not. Additional information is provided in the Wildlife Project File.</p> <p>Response to Comment #32: As mentioned in your comment, stands across the analysis area were evaluated for old growth characteristics using Green et al. (1992, updated 2005). This information was used to help identify old growth habitat within the analysis area. Old growth habitat was also determined on the ground by the District Wildlife Biologist evaluating snags and downed logs and other forest attributes. Cumulative effects of past, present, and reasonably foreseeable activities in combination with proposed activities are displayed in the EA on pages 3-192 through 3-194.</p> <p>All of the proposed treatments retain the majority of the larger trees, promoting growth towards meeting old growth characteristics, following the direction provided in Amendment 21.</p> <p>The EA includes information on old growth patch size, interior integrity, roads, and habitat for associated species. Associated wildlife species that have a preference for old growth are addressed on pages 3-170 through 3-175 (gray</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>proposed activities will have some often unquantified, but negative impact, to most species in the project area, the EA does virtually no analysis of the proposed activities on wildlife populations or their viability. In fact, the EA does little to connect the admitted negative impacts to species habitat to the viability of that species or population. This needs to be remedied for each of the wildlife sections and could best be accomplished in an EIS.</p> <p>Overall, the cumulative effects analysis of impacts to fish and wildlife species in the project area falls woefully short of the FNF’s obligation to analyze the effects of all past, present and reasonably foreseeable actions on various resource issues. On p. 3-2 to 3-3 of the EA, the FNF states:</p>	<p>← 35</p>	<p>The Hemlock Elk Project is consistent with the NFMA and with Forest Plan Amendment 21.</p> <p>The analysis of sensitive species included a discussion of existing habitat and habitat conditions for the different species, which may be found within the project area (EA, pages 3-197 through 3-213). Determinations were made on whether significant impacts would occur. The wildlife analysis also included discussion of Snag and Down Woody Dependent Species, Forest Management Indicator Species, and migratory birds (EA, pages 3-215 through 3-235). After a discussion of existing conditions for these species and the environmental consequences of implementing the Hemlock Elk Project, it was determined that no significant population impacts would be triggered as a result of the proposed actions.</p> <p>Project File Exhibit F-11, “Flathead National Forest Evaluation and Compliance with NFMA Requirements to Provide for Diversity of Animal Communities,” addresses the natural history, population, habitat, and distribution of wildlife species that can be found on the Flathead National Forest. This document discusses the threats to the different species, conservation measures in place to address those threats, and an evaluation of the current situation for the different species at the Forest and Regional level. This document explains how/why we believe viable populations would be maintained. This information is useful in the analysis of impacts to species and populations from proposed activities to determine whether impacts may be significant or not. Additional information is provided in the Wildlife Project File.</p> <p>The Selected Alternative is consistent with the management direction related to Old Growth Forests as described by Amendment 21 to the Flathead Forest Plan. The direct, indirect, and cumulative effects associated with the proposed activities and described in the EA have been determined to be non-significant (see FONSI). The Selected Alternative has been determined to be consistent with Forest Plan direction and the effects to be non-significant. Therefore, an EIS is not required.</p> <p>Response to Comment #35: The EA includes cumulative effects analysis (which considers all past, present, and reasonably foreseeable activities) in combination with proposed activities. The Cumulative Effects Worksheets, Project File Exhibits F-3, F-4, F-5, F-6, and L-3, also provides more detailed</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>“The resource information provided in the Affected Environment narratives includes the effects of past actions, assessing them as part of the existing condition of the landscape...the effects of such past actions are fully accounted for in the assessment of existing condition as the current condition assessment necessarily reflects the impact of such actions...As past actions are already included in the affected environment, cumulative effects analysis builds upon this existing condition assessment by considering the incremental addition of direct and indirect effects of proposed, as well as present and reasonably foreseeable actions.”</p> <p>It is clear that the cumulative effects analysis of this EA depends entirely on the analysis contained in the Affected Environment, Existing Condition, Environmental Consequences, or Cumulative Effects portions of individual resource sections. However, the Affected Environment, Existing Condition, Environmental Consequences, or Cumulative Effects sections consistently do not disclose what the impacts of past actions, much less the impacts of past, present proposed and reasonably foreseeable actions, have been to the wildlife species or their populations.</p> <p>There is no analysis of the project impacts on goshawks, which were previously an MIS species, and are known to be useful indicators of old growth habitat conditions due to their close association with them. Only a few sentences on p. 3-190 are devoted to a brief speculation about how many potential territories may exist in the project area. How is it that in the entire 35,000+ project area that the FNF can identify only one potential goshawk territory? If old growth conditions have been degraded across 35,000 acres to the point that only 160 acres of sufficient nesting habitat now exist, this portends a poor future for goshawk in the project area and brings serious doubt as to whether the FNF has managed the public lands in the project area consistent with their mandate to support old growth associated species.</p>	<p>← 36</p>	<p>cumulative effects analysis of all past, current, and foreseeable activities in combination with the Hemlock Elk Project.</p> <p>Response to Comment #36: As stated on page 3-190, the Flathead National Forest examined the amount and distribution of goshawk habitat found on NFS lands within the Flathead National Forest (USDA 2000). Goshawk habitat was summarized for individual sub-basins; in the 469,280-acre Swan Valley Sub-basin, approximately 203,972 acres of suitable habitat were identified. Northern goshawks are known to occur in the Swan Valley. There are no known nest sites in any of the proposed Hemlock Elk Treatment units.</p> <p>In addition, Goshawk researchers have found no evidence that goshawks are declining in the western United States [P.L. Kennedy 1997: The Northern Goshawk (<i>Accipiter gentilis atricapillus</i>): Is there evidence of a population decline? Raptor Research 31:95-106, J.R. Squires and P.L. Kennedy 2006: Northern goshawk ecology: an assessment of current knowledge and information needs for conservation management. Studies in Avian Biology] and F. Samson [2005: A conservation assessment of the Northern Goshawk, Black-backed Woodpecker, Flammulated Owl, and Pileated Woodpecker in the Northern Region, USDA Forest Service. Unpublished report on file, Northern Region, Missoula, Montana] demonstrated that goshawk habitat was well distributed and abundant in Region 1; the Kowalski (2005) estimate of goshawk presence suggests that goshawks are abundant and well distributed</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>The FS has acknowledged that viability is not merely a project area consideration, that the scale of analysis must be broader:</p> <p>Population viability analysis is not plausible or logical at the project level such as the scale of the Dry Fork Vegetation and Recreation Restoration EA. Distributions of common wildlife species as well as species at risk encompass much larger areas than typical project areas and in most cases larger than National Forest boundaries. No wildlife species that presently occupy the project area are at such low numbers that potential effects to individuals would jeopardize species viability. No actions proposed under the preferred alternative would conceivably lead to loss of population viability. (Lewis and Clark NF, Dry Fork EA Appendix D at p. 9.)</p> <p>The FS should firmly establish that the species that exist, or historically are believed to have been present in the analysis area are still part of viable populations. Since Forest Plan monitoring efforts have failed in this regard, it</p>	<p style="text-align: center;">← 41</p>	<p>Exhibit G-1) includes the minimum and associated characteristics used to guide old growth determinations. Field surveys were done for every stand that appeared to be close to the minimum criteria and for all stands where stand replacement was proposed (e.g., Seed Tree harvest) (EA, page 3-188). In addition, stands initially proposed for treatment were surveyed by the Wildlife Biologist to assure that no treatment was proposed in old growth habitat. In addition to strictly comparing stand data to Green et al., ground surveys looked at the potential for the stand to provide old growth habitat characteristics for old growth associated species. The EA describes the stand structures for the entire project area on page 3-45.</p> <p>Affects analysis for this project included an analysis of how the proposed treatments would affect existing old growth habitat adjacent to the proposed units. Interior integrity of existing old growth adjacent to the Hemlock Elk Project Area was analyzed, as was old growth recruitment and possible displacement of old growth species (pages 3-190 through 3-194). In no case do proposed treatments sever existing old growth stands from forested cover and isolate those old growth habitats. There is a limited amount of regeneration harvest proposed; however, these units do not inhibit connectivity due to the existence of adjacent hiding cover. Other prescribed treatments, as described in the EA (pages 3-191 through 3-194) would be management designed to recruit old growth stands in the future and would be an effort to connect rather than fragment old growth forest habitat.</p> <p>Response to Comment #41: Old growth direction for the Forest is provided in Amendment 21 to the Forest Plan (Management Direction Related to Old Growth Forests). We have conducted an old growth analysis according to the requirements in Amendment 21 (EA, pages 3-185 through 3-195).</p> <p>The analysis of wildlife species discusses the existing habitat conditions within the analysis area and the effects the Proposed Action would have on their habitat. The assumption made in conducting analysis at this level, is that by insuring that there is sufficient, well-distributed habitat in each analysis area, we will insure that species have sufficient, well-distributed habitat across their range.</p> <p>The proxy-on-proxy approach is appropriate for ensuring species viability and is used both to monitor trend and for assessing viability. This approach uses Management Indicator Species (MIS) as an indicator for other species (the first level of proxy), and habitat capability (the second level of proxy) as an</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>must be a priority for project analyses. Identification of viable populations is something that must be done at a specific geographic scale. The analysis must cover a large enough area to include a cumulative effects analysis area that would include truly viable populations. Analysis must identify viable populations of MIS, TES, at-risk, focal, and demand species of which the individuals in the analysis area are members in order to sustain viable populations.</p> <p>The fact that the FS has not monitored the population trends of its old growth management indicator species (MIS) as required by the Forest Plan bears important mention here. Considering potential difficulties of using population viability analysis at the project analysis area level (Ruggiero, et. AL., 1994), the cumulative effects of carrying out multiple projects simultaneously across the Forest makes it imperative that population viability be assessed at least at the forestwide scale (Marcot and Murphy, 1992). Also, temporal considerations of the impacts on wildlife population viability from implementing something with such long duration as a Forest Plan must be considered (id.) but this has never been done by the FNF. It is also of paramount importance to monitor population trends (as mandated by the Forest Plan) during the implementation of the Forest Plan in order to validate assumptions used about long-term species persistence i.e., population viability (Marcot and Murphy, 1992; Lacy and Clark, 1993).</p>	<p style="text-align: center;">← 42</p>	<p>indicator for viability of the MIS. Crucial to this approach is that the methodology for the habitat proxy be sound and that the habitat is well distributed and of sufficient quantity. The analysis in the NEPA documents and BE of effects on sensitive and other species or habitats of concern ends with a conclusion by the Wildlife Biologist whether the project would threaten population viability.</p> <p>The Hemlock Elk Project analysis did not indicate that the proposed project would result in or contribute to a trend toward Federal listing of any wildlife species.</p> <p>As stated above in Response to Comment #34, the document “Flathead National Forest Evaluation and Compliance with NFMA Requirements to Provide for Diversity of Animal Communities” (Project File Exhibit F-11), addresses the natural history, population, habitat, and distribution of wildlife species that can be found on the Flathead National Forest. This document discusses the threats to the different species, conservation measures in place to address those threats, and an evaluation of the current situation for the different species at the Forest and Regional level. This document explains how/why we believe viable populations would be maintained. Additional information is provided in the Wildlife Project File.</p> <p>Response to Comment #42: The wildlife analysis documented in the EA is a habitat-based analysis supported by scientific literature and the professional judgment of the District Wildlife Biologist. The EA and the BA indicate that the project would maintain adequate habitat within the analysis area. The BE is included in the EA on pages 3-197 through 3-214.</p> <p>The analysis of wildlife species discusses the existing habitat conditions within the analysis area and the effects the Proposed Action would have on their habitat. The assumption made in conducting analysis at this level, is that by insuring that there is sufficient, well-distributed habitat in each analysis area, we will insure that species have sufficient, well-distributed habitat across their range.</p>

²Subpopulations.

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>State-of-the-art conservation biology and the principles that underlie the agency’s policy of “ecosystem management” dictate an increasing focus on the landscape-scale concept and design of large biological reserves accompanied by buffer zones and habitat connectors as the most effective (and perhaps only) way to preserve wildlife diversity and viability (Noss, 1993).</p> <p>The FS has stated: “Well distributed habitat is the amount and location of required habitat which assure that individuals from demes,2 distributed throughout the population’s existing range, can interact. Habitat should be located so that genetic exchange among all demes is possible.” (Mealey 1983.)</p> <p>High severity fires in mixed severity fire regimes often, and historically, converted old growth forest into younger or mixed age stands (Hessburg et al 2007). As is living old growth well recognized for its ecological importance and contemporary impoverishment relative to historical levels on the landscape due to past logging, so is burned old growth, including those affected by high severity burn. In an area where nearly a third of the landscape has already been logged, mostly by clearcutting and where such harvesting targeted much of the large and mature tree habitat, and where hundreds of acres of more industrial logging is proposed, maintaining intact remnant patches of large tree habitat can only be viewed as essential. An important finding of the Interior Columbia Ecosystem Basin Management Project (ICEBMP) is the historical abundance and ecological importance of old growth and, independent of old growth, of mid to large sized remnant trees in otherwise young forests. Overall in the ICB, Hessburg et al found that “patch area with old forest-structures declined sharply in all ERUs where they historically occupied more than a minor area. The same was true of patches with remnant trees. In several ERUs, area with medium and large trees overshadowed or augmented losses to historical old-forest area. Our results suggested that 20th century timber harvest activities targeted patches with medium- and large-sized trees regardless of their structural affiliation.” They further state, “in the historical condition, large (>63.5 cm DBH) and medium (40.5±63.5 cm DBH) trees were once more widely distributed in structures other than old forest as a conspicuous remnant after stand-replacing wildfires. Change analysis indicated that patches with medium and large trees were targeted for timber harvest, regardless of their structural affiliation.”</p> <p>Younger stands with remnant medium and large sized trees would likely not meet Green et al and would not qualify as old growth, however, given their historical abundance they were undoubtedly an integral part of many species’ habitat requirements, are likely therefore of crucial importance to maintaining wildlife</p>	<p>← 43</p>	<p>Response to Comment #43: There are numerous studies and literature on the historic forest composition and structure. The EA describes historic forest conditions in Chapters 1, 2, and 3.</p> <p>Stands across the analysis area were evaluated for old growth characteristics. This information was used to help identify old growth habitat within the analysis area. All of the proposed treatments retain the majority of the larger trees, promoting growth towards meeting old growth characteristics, following the direction provided in Amendment 21.</p> <p>The EA includes information on old growth patch size, interior integrity, roads, and habitat for associated species. Associated wildlife species that have a preference for old growth are addressed on pages 3-170 through 3-175 (gray wolf); pages 3-175 through 3-184 (grizzly bear); pages 3-197 through 3-200 (black-backed woodpecker); pages 3-201 through 3-205 (fisher); pages 3-215 through 3-220 (snag and down woody dependent species); pages 3-229 through 3-235 of the EA. Additional information is provided in the respective project files.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>populations, and yet have significantly declined in abundance largely due to logging. This is a fact which is not accounted for, or acknowledged, by the Forest Service’s dependence on the maintenance of a small portion of old growth forest as a proxy for old-growth species viability and ultimately the maintenance of biodiversity that is an FS mandate. How can the FS claim that its strategy for maintaining old growth dependent species viability, or the viability of other species dependent on medium and large trees outside of or in addition to old growth, is therefore valid?</p> <p>There are important implications of these findings from the ICEBMP that we believe the FS must take into account. Hessburg et al (2000) enumerate these implications:</p> <p style="padding-left: 40px;">There are at least two important ramifications: First, it has been broadly assumed that large trees are principally associated with old forests, where they contribute important living and dead structure. In some ERUs, old forest abundance was historically quite minimal (Table 3), but medium and large trees were distributed in other forest structures as a remnant after stand-replacing fires; in some cases, large trees comprised as much as 24% of the crown cover of forest structures, contributing important living and dead structure. Hence, some non-old forest structures of historical forest landscapes contributed a measure of late successional functionality and connectivity with old forest. Second, where old forest area and area with remnant large trees has been depleted, the present and future supply of medium and large dead trees as snags and down logs is substantially diminished. This is especially true of snags and down logs of early seral species. We propose that terrestrial and aquatic species and processes requiring large dead tree structure may be adversely influenced by this reduction unless the shortfall is remedied through recruitment.</p> <p>Especially in a mixed severity fire regime as historically existed in the Hemlock Elk project area—where remnant medium and large trees were likely a substantial component of the overall abundance of medium and large trees—this information brings to light the potentially fatal flaws of the FS strategy of managing old growth forest exclusively, without an adequate management strategy for medium and large trees outside of old growth. Medium and large tree structures that historically supported many forest species likely existed outside old growth, but potentially connecting old growth, through a patchwork of younger aged stands. How does the FS’s species viability strategy take all of this information from the ICEBMP into account? How does the proposed</p>	<p>← 44</p>	<p>Response to Comment #44: See Response to Comment #43 above. Snag and coarse woody debris requirements are included for all stands proposed for treatments in the EA. Refer to the Design Criteria in Appendix 2 of the DN.</p> <p>The wildlife analysis documented in the EA is a habitat-based analysis supported by scientific literature and the professional judgment of the District Wildlife Biologist. The EA (pages 3-161 through 3-235) and the BA indicate that the project would maintain adequate habitat within the analysis area. The BE is included in the project file.</p> <p>The analysis of wildlife species evaluated the existing habitat conditions within the analysis area and the effects the Proposed Action would have on their habitat. The Selected Alternative is consistent with the management direction related to Old Growth Forests as described by Amendment 21 to the Flathead Forest Plan.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>growth and the creation and maintenance of medium and large trees outside of old growth stands. Hessburg et al (2000) corroborate the importance of several reserve design features:</p> <p>Patterns of structure and composition within the NWFP reserve network will continue to change as a result of uncontrolled fires, insect outbreaks, and other succession processes. What may be needed is an approach that marries a short term system of reserves with a long term strategy to convert from a reserve system to a continuous network of landscapes with dynamic properties. In such a system, late-successional elements with semi-predictable environmental settings (sensu Camp et al., 1997) are continuously recruited, but shifting in landscape position across space and time.</p> <p>Indeed, the most significant fallout associated with 20th century resource management activities has been the effect of timber extraction and associated activities on native species biodiversity. Hardest hit have been late-successional and old forest communities of the Pacific and Interior Northwest. Old forest area has been seriously depleted by past harvest activity, and old forests of the future will be grown from existing conditions. But spatial and temporal patterns of interior forest vegetation and disturbance are dynamic. Adaptive ecosystem management scenarios (sensu Walters and Hollings, 1990) for the interior should therefore be informed by that insight, including scenarios to conserve old forest-dependent species.</p> <p>Patches of late-successional and old forest structure are ephemeral landscape elements; they have specific contexts in space and across time. Future old forest will grow from some other condition; current old forests will become something else. Taking hold of this notion enables one to identify the dilemma of strategies that rely on a reserve system without backup. Because of the unfortunate legacy of past management actions, late-successional reserves must represent a special case for management. But the special case is an unforeseen consequence of past events, and in the interior, the likelihood of success in the long term is low.</p> <p>Soil Productivity</p> <p>The FNF Forest Plan states on p. II-55 that:</p> <p>“1. Ensure that all resource management activities will maintain soil</p>	<p style="text-align: center;">← 47</p>	<p>succession regimes. The amendment also provides direction to achieve an amount and distribution of old growth forest similar to what occurred historically. The Selected Alternative is consistent with the management direction related to Old Growth Forests as described by Amendment 21 to the Forest Plan.</p> <p>Response to Comment #47: Units 1 and 2 are partially located within landtype 10-3 and landtype 26C-7 as a result of a Geographic Information System (GIS) exercise overlaying unit boundaries on landtypes. Table 3-4 was created based on this exercise for display purposes but is in error. Units 1 and 2 should have been also listed in landtype 26C-7. Please refer to</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>productivity and minimize erosion through implementation of:</p> <p>a. The management direction presented in the Landtype Guidelines (Appendix Q)... 2. Design or modify all management practices as necessary to protect land productivity.”</p> <p>According to the EA, Units 1 and 2 are landtype 10-3, which are characterized in the Landtype Guidelines (Appendix Q) of the FNF Forest Plan by the “presence of thin soils, compactible soils, soils with low bearing strength and/or the potential for flooding, frost pockets, or frost heaving.” The Landtype Guidelines state “Permanent developments other than specially designed roads...will not be allowed...” and that “the poorly drained soils of Landtype 3 can be protected by the use of cable yarding systems or winter logging.” Yet the EA does not make clear what special design features the new road construction proposed to access units 1 and 2 will contain to meet these standards. Likewise, the EA lists both units as tractor logging units (Table 2-5, p. 2-13) and clearly states on p. 3-20 that “In Alternative B, none of the units would be harvested in the winter.” The EA does not explain how these decisions are consistent with the FNF Forest Plan and should do so or alter them so that they do clearly comply.</p> <p>Restoration has become an increasingly used, and useful, concept guiding many contemporary land management decisions. The EA utilizes the restoration framework to guide and justify many of the logging treatments, but largely fails to do similarly with soils in the project area.</p> <p>The FNF has restricted its soils analysis exclusively to the self-imposed activity area definition of individual harvest units, but it has not provided the public with even the most basic information about soil conditions and trends within the broader project area. The latter, of course, would be of great interest to the public and would benefit the FNF in complying with its mandate to protect soil productivity within the project area and forest wide. The omission of this information about the extent to which current soil conditions within the project area deviate from “reference conditions” due to past management activities constitutes a major failure to disclose project area-wide cumulative effects on soil conditions. This is likely because soil-compacting machines and logging activities themselves are completely antithetical to ecological “reference conditions” and the EAs major bias toward industrial logging as a solution to alleged ecological problems.</p>	<p style="text-align: center;">← 48</p> <p style="text-align: center;">← 49</p>	<p>Appendix 6 - Errata in the Decision Notice displaying this change.</p> <p>Given the coarse scale analysis of the GIS landtype overlay method described above, no assumptions were made. All treatment units were surveyed by qualified Soil Scientists accompanied by field technicians gathering data on current soil conditions using the Region One Soil Monitoring Guide Protocol, a modified Brown’s woody debris transect, and a modified Howes soil disturbance assessment. Surveyors provided field notes on soil texture, soil cover, and total organics, in addition to detrimental disturbance for each unit. Much of this information is displayed on pages 3-9 through 3-17 of the EA. Field Notes are available as Project File Exhibits J-3 through J-8.</p> <p>Field Notes for Units 1 and 2 indicate no areas with elevated amounts of moisture levels in the soils. Unit 1 is located on an upland terrace above the floodplain. Unit 2 has been deferred from the Selected Alternative due to a combination of the limited size of the unit, the limited amount of harvest proposed, and the fact that the adjacent landowner has treated fuels on his property and feels the existing conditions in Unit 2 would not currently or in the foreseeable future post a significant issue.</p> <p>Response to Comment #48: Soil restoration techniques are discussed on pages 2-27 and 3-23 of the EA. Restoration would improve soils conditions within Units 5b and 12. These units are predicted to exceed the 15 percent Soil Quality Standard due to cumulative effects from past treatment and proposed treatment. These units would move towards a new improvement in soil quality.</p> <p>Response to Comment #49: Soil monitoring has occurred and is referenced in Project File Exhibits, J-100, J-101, J-105, J-106, J-107, and J-108. The cumulative impacts of all disturbances were considered in assessing percent detrimental disturbance in proposed activity areas. Since no activities would occur outside of the treatment units, no cumulative effects would occur. There is no need to display the existing conditions of soils outside of the activity areas or treatment units.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>Of the thousands of acres affected by logging, the EA fails to disclose the current soil conditions on the bulk of those acres—discussing those acres only if they happen to fall within newly proposed logging units. Such factors as the areal extent and depth of soil compaction, damage due to slash burning, erosion from logging and other management actions—are obviously considered irrelevant to anyone making a decision on whether to log more of the area. Even the FS’s own soil scientist disagrees with such an approach. Kuennen et al. 2000 (a collection of Northern Region soil scientists) state:</p> <p style="padding-left: 40px;">An emerging soils issue is the cumulative effects of past logging on soil quality. Pre-project monitoring of existing soil conditions in western Montana is revealing that, where ground-based skidding and/or dozer-piling have occurred on the logged units, soil compaction and displacement still are evident in the upper soil horizons several decades after logging. Transecting these units documents that the degree of compaction is high enough to be considered detrimental, i.e., the soils now have a greater than 15% increase in bulk density compared with undisturbed soils. Associated tests of infiltration of water into the soil confirm negative soil impacts; the infiltration rates on these compacted soils are several-fold slower than rates on undisturbed soil.</p> <p>...The effects of extensive areas of compacted and/or displaced soil in watersheds along with impacts from roads, fire, and other activities are cumulative. A rapid assessment technique to evaluate soil conditions related to past logging in a watershed is based on a step-wise process of aerial photo interpretation, field verification of subsamples, development of a predictive model of expected soil conditions by timber stand, application of this model to each timber stand through GIS, and finally a GIS summarization of the predicted soil conditions in the watershed. This information can then be combined with an assessment of road and bank erosion conditions in the watershed to give a holistic description of watershed conditions and to help understand cause/effect relationships. The information can be related to Region 1 Soil Quality Standards to determine if, on a watershed basis, soil conditions depart from these standards. Watersheds that do depart from Soil Quality Standards can be flagged for more accurate and intensive field study during landscape level and project level assessments. This process is essentially the application of Soil Quality Standards at the watershed scale with the intent of maintaining healthy watershed conditions (Kuennen et al., 2000; emphasis added).</p>	<p>← 50</p>	<p>Response to Comment #50: The EA discusses the current soil conditions on pages 3-9 through 3-17. The EA lists the data that was collected by conducting full surveys on each unit on pages 3-10 through 3-12. The EA discloses multiple times, how past activities have affected soils. As stated on page 3-9 of the EA, “All potential treatment areas were assessed to determine detrimental disturbance from previous logging and fire.” The current conditions of the soils in proposed units is displayed in Table 3-16 of the EA showing down woody debris, coarse fragments, total organics, and current disturbance. Volcanic Ash, soil organic matter, soil wood, and soil porosity are also discussed on pages 3-13 through 3-16. Soil water infiltration rates are discussed in these sections. The Soils Cumulative Effects Worksheet also provides information on the effects of past, current, and foreseeable activities in combination with the Hemlock Elk Project to soils (Project File Exhibit J-2). Field investigation notes are located in the project file (Project File Exhibit J-3 through J-8).</p> <p>The Forest Service Manual directs us to design new activities that do not create detrimental soil conditions on more than 15 percent of an activity area, not a watershed. The boundary for cumulative effects analysis for soils is the same. An activity area is defined as:</p> <p style="padding-left: 40px;">“A land area affected by a management activity to which soil quality standards are applied. Activity areas must be feasible to monitor and include harvest units within timber sale areas, prescribed burn areas, grazing areas or pastures within range allotments, riparian areas, recreation areas, and alpine areas. All temporary roads, skid roads, and landings are considered to be part of an activity area.”</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>Nothing in the EAs watershed analysis section specifically addresses the hydrological implications of the soil damage caused by cumulative past management nor proposed project-induced damage in the project area.</p> <p>The Ninth Circuit addressed a very analogous situation in <i>Lands Council v. Powell</i>, where the Forest Service proposed more logging in a watershed that was no longer properly functioning because of the effects of past logging. As the Court noted in that case, “[c]umulative effects analysis requires the [FEIS] to analyze the impact of a proposed project in light of that project’s interaction with the effects of past, current, and reasonably foreseeable projects... [Here] there is no discussion of the connection between individual harvests and the prior environmental harms from those harvests that the Forest Service now acknowledges.” <i>Ibid.</i>, at 1027. By analogy, the same failure of analysis for soil productivity is evident for soils in the Hemlock Elk project.</p> <p>The Bitterroot National Forest admitted that subwatersheds that have high levels of existing soil damage could indicate a potential for hydrologic and silviculture concerns. (USDA Forest Service, 2005b, p. 3.5-11, 12.) This EA ignores such potential. On this subject, Booth and Jackson (1997) state:</p> <p style="padding-left: 40px;">A variety of physical data from lowland streams in western Washington display the onset of readily observable aquatic-system degradation at a remarkably consistent level of development, typically about ten percent</p>	<p>← 51</p> <p>← 52</p> <p>← 53</p>	<p>Response to Comment #51: The potential effects of the proposed activities on Water Resources were discussed in EA on pages 3-127 through 3-139. Factors affecting changes in water quantity such as specific soil conditions is discussed in the Measurement Indicators Section of the Water Resources Section of the EA on page 3-129. Past changes to vegetative cover resulting from land conversions, forest harvesting, and road building and the effects to water resources is also discussed throughout the Water Resources Section of the EA. Cumulative effects of past, present, and current activities combined with proposed activities is displayed in the EA on pages 3-132 through 3-139. The Cumulative Effects Worksheet (Project File K-15) also considers and describes effects of proposed activities in addition to the past, current, and reasonably foreseeable activities in more detail within the Hemlock Elk Cumulative Effects Analysis Area.</p> <p>Soil and Water Conservation Practices, incorporated as contract clauses also require all BMPs and aspects of the Montana Streamside Management Zone Act will be legally adhered to.</p> <p>Response to Comment #52: Riparian Habitat Conservation Area and BMPs prevent most management activities from impacting water quality by minimizing sediment-producing disturbance and minimizing the potential for any sediment that is generated to reach a water body. The mechanism whereby soil disturbance most affects water quantity is through soil compaction affecting infiltration and runoff patterns. The predominant area this occurs and where sediment-carrying runoff has the greatest potential to be delivered to streams is on roads. Roads are addressed in the analysis of water quality (EA, pages 3-127 through 3-139) and are included in the Equivalent Clearcut Areas (ECA) modeling in the water quantity analysis. Equivalent Clearcut Areas results for each watershed, including information on roads, are included in the Water Resources Project File Exhibit K-6. Please see also Responses to Comment #50 and #51.</p> <p>Response to Comment #53: The EA on page 3-129 describes in detail how the measurement indicator channel stability was used to evaluate the overall aquatic health of streams within the three watersheds of the Water Resources Cumulative Effects Analysis Area for the Hemlock Elk Project. Fifteen individual conditions of a stream are assessed by this process. Many reflect the parent geology of the watershed, and the vegetation adjacent to the stream. Others focus on visible changes in stream channel conditions, such</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>effective impervious area in a watershed. Even lower levels of urban development cause significant degradation in sensitive water bodies and a reduced, but less well quantified, level of function throughout the system as a whole.</p> <p>...The net effect of upland changes, occurring across the land surface of the contributing headwater catchments, is at least as important in determining overall stream function, degradation, and rehabilitation potential (National Research Council, 1992).</p> <p>...Correlations between development and aquatic-system conditions have been investigated for nearly two decades with remarkably consistent results. Klein (1979) published the first such study, where he reported a rapid decline in biotic diversity where watershed imperviousness much exceeded 10 percent.</p> <p>...The observations here show that observed instability is all-but ubiquitous where the contributing effective impervious area percentage exceeds a rather low level: a value of about 10 percent discriminates between observed stable and unstable reaches almost perfectly. ... We emphasize that the good relationship between “instability” and “imperviousness” is not a simple causal relationship, because we recognize that EIA is but an index of the variety of hydrologic changes imposed by urban development. However, it is clearly a robust and easily estimated one.</p> <p>...These results show remarkably clear and consistent trends in aquatic-system degradation. In western Washington, and likely in other humid regions as well, approximately 10 percent effective impervious area in a watershed typically yields demonstrable, and probably irreversible, loss of aquatic system function. Even lower levels of urban development cause significant degradation in sensitive water bodies and a reduced, but less well quantified, degree of loss throughout the system as a whole. These results do not indicate a “threshold” per se: degradation begins at very low levels of urban development and continues well beyond the range of imperviousness emphasized in this study. But we find a noteworthy accumulation of physical and biological effects, particularly those that can be consistently observed and measured by even rather crude (but also rapid and so inexpensive) methods, once EIA’s reach about 10 percent. The changes imposed on the natural system are a continuum, and so defining a strict “threshold” in this context would be ©; but our perception of and our</p>		<p>as increased fine material in pools.</p> <p>As the EA states on page 3-130, these channel stability surveys are most useful when used to document trends, therefore repeated over time. These trends are most useful for an assessment of potential effects of a management proposal when compared to modeled water yield values. Within the Hemlock Elk Analysis Area, 15 surveys have been conducted from 1976 to the summer of 2006 so comparisons could be made for longer-term trends.</p> <p>As the EA states on page 3-136, “Modeling, along with on-the-ground reviews has demonstrated there would be no adverse cumulative effects on water quantity or channel stability from past harvest when considered with the action alternatives and all past activities within the Hemlock Elk Area. This conclusion is reached due to the small amount of annual water yield increases resulting from approximately 20,000 acres of fire, forest management, and other types of vegetation changes on Forest Service, private and industrial lands from the 1950s to 2007.” Please refer to pages 3-127 through 3-139 for more detailed information on the existing conditions of the streams and watersheds and effects to these areas in the Hemlock Elk Area. Detailed information on conditions of the Swan River is also presented. The Cumulative Effects Worksheet (Project File Exhibit K-1b) also provides detailed information on the evaluation of past, present, and foreseeable activities within the Hemlock Elk Cumulative Effects Analysis Area.</p> <p>We realize that forest vegetation treatments and road building have the potential to produce impacts to forest resources. We also believe that effects to forest resources can be minimized with appropriate, site specific application of project Design Criteria and BMPs. Specific Design Criteria (Appendix 2, pages 2-2 through 2-4) and BMPs (Appendix 4) to address your concern are included in this document.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>tolerance for those changes appears to undergo a far more abrupt transition, one which suggests a basis for discrete levels of both impact evaluation and management response.</p> <p>The point is not to claim the Hemlock Elk area is urban. The point is that the Forest Service has failed to establish limits on the amount of compacted or hydrologically dysfunctional soils in any given watershed, despite clear water yield implications of cumulative compaction or hydrologically dysfunctional soils over a given watershed area.</p> <p>Booth, 1991 further explains the relationship between soil quality conditions and hydrology:</p> <p style="padding-left: 40px;">Drainage systems consist of all of the elements of the landscape through which or over which water travels. These elements include the soil and the vegetation that grows on it, the geologic materials underlying that soil, the stream channels that carry water on the surface, and the zones where water is held in the soil and moves beneath the surface. Also included are any constructed elements including pipes and culverts, cleared and compacted land surfaces, and pavement and other impervious surfaces that are not able to absorb water at all.</p> <p style="padding-left: 40px;">...The collection, movement, and storage of water through drainage basins characterize the hydrology of a region. Related systems, particularly the ever-changing shape of stream channels and the viability of plants and animals that live in those channels, can be very sensitive to the hydrologic processes occurring over these basins. Typically, these systems have evolved over hundreds of thousands of years under the prevailing hydrologic conditions; in turn, their stability often depends on the continued stability of those hydrologic conditions.</p> <p style="padding-left: 40px;">Alteration of a natural drainage basin, either by the impact of forestry, agriculture, or urbanization, can impose dramatic changes in the movement and storage of water. ...Flooding, channel erosion, landsliding, and destruction of aquatic habitat are some of the unanticipated changes that ...result from these alterations.</p> <p>...Human activities accompanying development can have irreversible effects on drainage-basin hydrology, particularly where subsurface flow once predominated. Vegetation is cleared and the soil is stripped and compacted.</p>		

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>Roads are installed, collecting surface and shallow subsurface water in continuous channels. ...These changes produce measurable effects in the hydrologic response of a drainage basin.</p> <p>Another effect of roads that intercept subsurface flow is that the forest areas below such roads have drier soil conditions than natural. This alters vegetative diversity and productivity, and overall ecology for untold thousands of acres forestwide, perhaps hundreds in the Project Area. What scientific research has measured such impacts from roads in mountainous regions? The FNF has never disclosed the levels of such ecological change caused by its extensive road system.</p> <p>The DEIS fails to demonstrate that the boundaries of previously impacted activity areas (cutting units, for example) that are included at least partially within proposed Hemlock Elk units have been kept constant for the necessary purpose of calculating detrimental disturbance. So old activity areas with disturbance greater than 15% could potentially have the quantities diluted by boundary changes result in inclusion of unimpacted or less impacted areas. This would amount to gerrymandering simply to get around the quantitative SQS 15% Standard and mislead the public. The only way for there to be any meaning to the numerical standards in cases where logging is proposed over previously disturbed soils is to have the old activity areas as the basis for cumulative effects analyses, along with new activity areas.</p> <p>Secondly, the precision, or amount of error, in the measures of detrimental disturbance for activity areas is not disclosed. The EA misrepresents them as precise measurements when in fact they are estimates, based upon sampling that inherently has an amount of error. The Forest Service, in its "Response to Motion for Preliminary Injunction" brief in recent litigation on the Kootenai NF, states in regards to a scientific report, "(Its) purported 'statistical analysis' reports no confidence intervals, standard deviations or standard errors in association with its conclusions." The Forest Service must be held to the same standards of data and information quality it expects of those who disagree with its conclusions.</p>	<p>← 54</p> <p>← 55</p> <p>← 56</p>	<p>Response to Comment #54: The EA and project file contain references and supporting information for soil resources that were considered in the soil analysis. Please refer to the Soils Section on pages 3-9 through 3-31 of the EA for the discussion of the existing conditions and effects to soils from the proposed activities. Forest floor cover, down woody debris, duff depth, coarse fragments, soil texture, and a soil disturbance assessment (consisting of compaction, vegetation vigor, organic horizon integrity, forest floor cover, soil displacement, and erosion and mass wasting) was collected from areas proposed for treatment. The Soils Section goes on to discuss the importance of volcanic ash, organic matter, soil wood, soil porosity for the analysis. The EA also discusses the cumulative effects of the road system to soils on page 3-30.</p> <p>Response to Comment #55: The Hemlock Elk Project is an EA, not an EIS. The cumulative impacts of all disturbances were considered in assessing percent detrimental disturbance in proposed activity areas. Tables 3-7 and 3-8 displays the estimates of expected cumulative detrimental disturbance for proposed units. The EA states on page 3-22 that these numbers were derived assuming a 59 percent overlap with new disturbance on top of old disturbance. There is no need to display the existing conditions of soils outside of the activity areas or treatment units.</p> <p>The Soils Cumulative Effects Worksheet also provides information on the effects of past, current, and foreseeable activities in combination with the Hemlock Elk Project to soils (Project File Exhibit J-2). Field survey notes are located in the project file (Project File Exhibit J-3 through J-8).</p> <p>Response to Comment #56: The soil analysis follows Regional Guidelines for soil analysis as specified in FSM 2500-99-1. The discussion of the adequacy of FSM 2500-99-1 is beyond the scope of this analysis.</p> <p>Establishment of a threshold of 15 percent detrimental disturbance is supported by research indicating that when detrimental soil disturbance surpasses about 15 percent, it becomes difficult to mitigate or restore soil function and quality, ecosystem productivity, and off-site effects (Daddow and Warington, 1983; Maser, 1997; Harvey, et al. 1997; Everett, 1994). The 15</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>However, the EA failed to present any “confidence intervals, standard deviations or standard errors in association with its conclusions” regarding the amount of activity area detrimental soil disturbance. Since the EA does not provide the public or decision maker with any kind of information on the accuracy of its percentage of detrimental soil disturbance, the information is not scientifically valid nor reliable.</p> <p>How difficult would it be for the FS to provide estimates of current detrimental disturbance in each of the old activity areas, based upon monitoring claimed to have been performed on the Swan River Ranger District? Why is the FS afraid of actually disclosing the level of non-consistency of old activity areas with the current 15% areal extent detrimental disturbance limits in the SQS? The amount of hydrologically altered or non-functioning soils in any given watershed would provide some basis for assessment of watershed cumulative impacts and the SQS even recognize this. Unfortunately, the FNF does not. The EA fails to link the current and cumulative soil disturbance across tens of thousands of acres in the project area to the impacts on water quantity and quality.</p>	<p>← 57</p>	<p>percent standard is also documented in Powers (2006) in his paper, <u>Long-Term Soil Productivity: genesis of the concept and principles behind the program.</u></p> <p>The 15 percent standard is not arbitrary and was derived by an independent committee of scientists appointed to form a framework for implementing NFMA. Consensus opinion held that a departure from base line would have to exceed 15 percent to be deemed significant. Continuing research is being conducted to validate the standard for maintaining long-term soil productivity.</p> <p>The soils analysis in the Hemlock Elk Project considers variables in addition to those in the Regional Soil Guidelines (USDA 1999) for assuring maintenance of soil productivity. The Soil Scientists accompanied by Field Technicians collected data for forest floor cover, down woody debris, duff depth, coarse fragments, soil texture, and performed a soil disturbance assessment (consisting of compaction, vegetation vigor, organic horizon integrity, forest floor cover, soil displacement, and erosion and mass wasting) in activity areas proposed for treatment.</p> <p>The Flathead National Forest has invested extensively in performing field assessments and implementation monitoring. The field assessments provide site specific data used for a clearer articulation on current site conditions and potential soil productivity issues. Monitoring of numerous projects on the Flathead National Forest has supported the accuracy of this direct assessment method. Soil monitoring has occurred and is referenced in Project File Exhibits J-100, J-101, J-105, J-106, J-107, and J-108.</p> <p>Response to Comment #57: As stated above, monitoring reports have been conducted on soils similar to those in the Hemlock Elk Area. These reports are located in Project File Exhibits J-100, J-101, J-105, J-106, J-107, and J-108.</p> <p>RHCAs and BMPs prevent most management activities from impacting water quality by minimizing sediment-producing disturbance and minimizing the potential for any sediment that is generated to reach a water body. The mechanism whereby soil disturbance most affects water quantity is through soil compaction affecting infiltration and runoff patterns. The predominant area this occurs and where sediment-carrying runoff has the greatest potential to be delivered to streams is on roads. Roads are addressed in the analysis of water quantity and channel stability in the EA on pages 3-127 through 3-139</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>Regardless, the EA does not adequately recognize the differing issues of soil disturbance, as expressed in areas of detrimental disturbance, vs. reductions in soil productivity. The Forest Service has set upper limits on soil disturbance in “activity areas” (logging and burning units) to deal with the National Forest Management Act (NFMA) requirement that the agency must “insure that timber will be harvested from National Forest System lands only where ...soil, slope, or other watershed conditions will not be irreversibly damaged.”</p> <p>The EA presumes that areas of soil disturbance less than 15% areal extent in an “activity area” can be completely ignored in discussions about cumulative soil damage and accountings of management-induced reductions in soil productivity. This arises from the Regional Soil Quality Standards (R-1 Supplement 2500-99-1) (hereinafter, “SQS”). The EA shows that 9 of the proposed units (totaling 149 acres) have zero existing detrimental soil disturbance but would end up with detrimental disturbance over an estimated 10% of the areal extent of each unit following Alternative B logging activities (Table 3-7). Furthermore, the same table shows that only one harvest unit out of the 31 proposed units would fall below 10% detrimental disturbance after harvest activities were completed. Yet the EA discloses nothing in terms of the reduction in soil productivity caused by all that soil compaction. So that’s 149 acres that have never been logged before and hundreds of more acres, that will now have long-term soil reduction losses, but all of this is left unquantified by the EA.</p> <p>The EA completely discounts the losses in soil productivity in “activity areas” when the areal extent happens to fall below an arbitrary level of 15%. The EA displays this offbase and unfounded assumption in comments such as that on p. 3-9: “Where current conditions or estimated cumulative effects exceed 15 percent detrimental soil disturbance across a unit, long-term impacts to soil productivity are likely (<i>if there is less than 15 percent detrimental disturbance, substantial or permanent impairment of productivity is not likely</i>).” (emphasis added). Further, on p. 3-21, the EA states: “To summarize, by maintaining organic matter and ground cover on at least 85 percent of the site, nutrient cycling and availability should not be altered.” This assertion that activities which cause less than 15% detrimental disturbance is unexplained, unsupported, unwise and unless somehow demonstrated to be true is totally inconsistent with the body of scientific knowledge on soils. The 15% threshold is not defined as the amount of</p>	<p>← 58</p> <p>← 59</p> <p>← 60</p>	<p>and are included in ECA modeling in the water quantity analysis. ECA results for each watershed, including information on roads, are included in the Water Resources Project File.</p> <p>Response to Comment #58: Soil productivity will be maintained by meeting Regional Soil Standards. Monitoring of specific units of concern during project implementation will occur (DN, Appendix 3) to ensure all standards are met.</p> <p>Response to Comment #59: Soil productivity is discussed in the EA throughout the Soils Section. Effects of proposed activities on soil productivity are discussed on pages 3-17 through 3-31 of the EA. The EA states on page 3-22, “In regard to soil nutrient concerns, undisturbed units, typically those burned in the early 1900s, are just now reaching their potential for nutrient capital and efficient nutrient cycling. Design Criteria identified to protect soil and site productivity displayed in Table 2-15 would ensure no cumulative effects.”</p> <p>The EA also states on page 3-31, “Several other units are approaching the 15 percent standard. Design Criteria such as harvesting on dry or frozen conditions, maintaining 100-foot spacing between skid trails, and reusing existing skid trails will reduce the cumulative impacts and maintain soil productivity.”</p> <p>Response to Comment #60: The Region One soil quality requirements “provide benchmark values that indicate when changes in soil properties and soil conditions would result in significant change or impairment of soil quality based on available research and Regional experience. Proper application of these standards requires professional knowledge and judgment” (FSM 2554.02). In fact, the objective of soil quality monitoring is to meet the direction in the NFMA ... to manage NFS lands under ecosystem management principles without permanent impairment of land productivity and to maintain or improve soil quality (FSM 2554.02).</p> <p>Significant changes in productivity of the land are indicated by changes in soil properties that are expected to result in a reduced productive capacity over the planning horizon. Based on available research and current technology, a</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>acceptable detrimental disturbance as the FNF implies, but was designed because 15% is the margin of error for detection of soil compaction. This is a very important distinction that the FNF is clearly unaware of, is a serious flaw in the FNF's soils analysis and which certainly represents a failure by the FNF to conduct thorough analysis and inform the public if not, ultimately, to maintain forest wide soil productivity.</p>		<p>guideline of 15 percent reduction in inherent soil productivity potential will be used as a basis for setting threshold values for measurable or observable soil properties or conditions. The threshold values, along with areal extent limits, will serve as an early warning signal of reduced productive capacity.</p> <p>Handbook direction further states that the results of monitoring are to be used to evaluate resource management actions and recommend adjustments to practices or mitigation measures to prevent significant impairment of long-term soil productivity. Monitoring conducted on similar past actions on the Flathead National Forest provides clear evidence the Forest is instituting the monitoring and administrative studies needed to address land productivity concerns at the project level. Results of past soils monitoring on the Forest are located in the project file (Project File Exhibits J-100, J-101, J-105, J-106, J-107, and J-108).</p> <p>The management goal is to limit disturbances to the greatest extent possible and when necessary apply mitigation, restoration, and corrective actions so that the extent of detrimental conditions following implementation of all activities is at or below the Regional Standard. Application of BMPs, SWCPs and Design Criteria presented in the EA, as well as contract provisions provide these assurances.</p> <p>Establishment of a threshold of 15 percent detrimental disturbance is supported by research indicating that when detrimental soil disturbance surpasses about 15 percent, it becomes difficult to mitigate or restore soil function and quality, ecosystem productivity, and off-site effects (Daddow and Warrington 1983; Maser 1997; Harvey et al. 1997; Everett 1994). The 15 percent standard is also documented in Powers (2006) in his paper entitled, <u>Long-Term Soil Productivity: genesis of the concept and principles behind the program.</u></p> <p>The 15 percent standard is not arbitrary and was derived by an independent committee of scientists appointed to form a framework for implementing NFMA. Consensus opinion held that a departure from base line would have to exceed 15 percent to be deemed significant. Continuing research is being conducted to validate the standard for maintaining long-term soil productivity.</p> <p>The soils analysis in the Hemlock Elk Project considers variables in addition to those in the Regional Soil Guidelines (USDA 1999) for assuring maintenance of soil productivity. As stated above, Soil Scientists</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>In response to DEIS comments on the Myrtle Creek HFRA project on the adjacent Idaho Panhandle National Forests, comments that criticized the arbitrary nature of the SQS's use of 15% detrimental disturbance as somehow allowable, the Myrtle Creek HFRA FEIS cites one of the Forest Service's own experts on soil processes, Dr. Bob Powers of the Pacific Southwest Research Station:</p> <p style="padding-left: 40px;">The Regional Soil Quality Standards (R-1 Supplement 2500-99-1) were revised in November 1999 (DEIS, A-11 (FEIS Chapter 3). Manual direction recommends maintaining 85% of an activity area's soils at an acceptable productivity potential with respect to detrimental impacts – including the effects of compaction, displacement, rutting, severe burning, surface erosion, loss of surface organic matter, and soil mass movement. This recommendation is based on research indicating that a decline in productivity would have to be at least 15% to be detectable (Powers, 1990). (Myrtle Creek HFRA FEIS at F-24.)</p> <p>It is important to point out, however, that in the following comment, Dr. Powers is referring to separate and distinct thresholds when he talks about 15% increases in bulk density, which is a threshold of when soil compaction is considered to be detectable, and 15% areal limit for detrimental disturbance, which is the SQS threshold for how much of an activity area can be detrimentally disturbed (including compaction from temporary roads and heavy equipment, erosion resulting from increased runoff, puddling, displacement from skid trails, rutting, etc.). With that caveat, what Dr. Powers has to say in relation to the SQS is quite revealing as quoted in Nesser, 2002:</p> <p style="padding-left: 40px;">[T]he 15% standard for increases in bulk density originated as the point at which we could reliably measure significant changes, considering natural variability in bulk density... [A]pplying the 15% areal limit for detrimental damage is not correct... [T]hat was never the intent of the 15% limit... and NFMA does not say that we can create up to 15% detrimental conditions, it says basically that we cannot create significant or permanent impairment,</p>	<p>← 61</p>	<p>accompanied by Field Technicians collected data for forest floor cover, down woody debris, duff depth, coarse fragments, soil texture, and performed a soil disturbance assessment (consisting of compaction, vegetation vigor, organic horizon integrity, forest floor cover, soil displacement, and erosion and mass wasting) in activity areas proposed for treatment. The field surveys provide site specific data used for a clearer articulation on current site conditions and potential soil productivity issues.</p> <p>Response to Comment #61: Beginning in 1982, bulk density samples were taken from the Flathead National Forest in areas that were managed for timber production. Two statistical analyses of those bulk density measurements establish their validity in determining the effects of management on the ground (Project File Exhibits J-98 and J-102).</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>That’s precisely our point here: Since the FNF has no idea how much soil has been permanently impaired either within the project area or forestwide, “sustained yield” is merely an empty promise.</p> <p>Further compromising soil productivity in the FNF is the failure to adequately address the spread of noxious weeds, which have the potential effect of reducing site productivity by replacing natural vegetation and competing with same for soil nutrients, moisture, etc.</p> <p>USDA Forest Service, 2005a states at p. 173:</p> <p style="padding-left: 40px;">Noxious weed presence may lead to physical and biological changes in soil. Organic matter distribution and nutrient flux may change dramatically with noxious weed invasion. Spotted knapweed (<i>Centaurea biebersteinii</i> D.C.) impacts phosphorus levels at sites (LeJeune and Seastedt, 2001) and can hinder growth of other species with allelopathic mechanism. Specific to spotted knapweed, these traits can ultimately limit native species’ ability to compete and can have direct impacts on species diversity (Tyser and Key 1988, Ridenour and Callaway 2001).</p> <p style="padding-left: 40px;">While it is clear that the above referenced conclusions from the undermine the assumptions of the Forest Plan that are central to the strategies adopted for insuring against irreversible losses of soils productivity, sustainable plant communities, and assuring sustained yield of the timber resource in the project area and forestwide, the underlying concerns are nowhere disclosed, let alone analyzed, in the EA.</p> <p>The EA confirms that several units within the project area will exceed the Regional Soil Quality Standards (Table 3-7). This is a clear violation of the R1 SQS standards, the FNF’s obligation to maintain forest wide soil productivity and of the FNF’s own Forest Plan, all of which is justified by the claim that restoration will occur or that noncompliance will only be temporary. Nowhere in the FNF Forest Plan does it say that soil standards may be exceeded temporarily. Yet the EA is filled with statements suggesting that this is okay. For instance, on p. 3-22 the FNF states: “Cumulative effects on moderately disturbed units (6 to 15 percent detrimental disturbance) where ground-based logging and thinning are proposed would likely exceed the Regional Soil Quality Guidelines and thresholds for a short time, perhaps 5 to 10 years....{rp[psed ,ecjamozed activities on the severely disturbed units would generate similar disturbance patterns as described above....Cumulative effecs would be relatively short term</p>	<p>← 67</p>	<p>Response to Comment #67: As the EA states on page 3-23, “two units (6 and 14) currently exceed the Regional Soil Quality Standard and two units (5b and 12) are predicted to exceed the standard with proposed activities. Units 6 and 14 exceed the Regional Standard due to previous logging activity and are deferred in the Selected Alternative. Units 5b and 12 will be monitored during and after project implementation to determine the extent of detrimental disturbance. If these units exceed the 15 percent Regional Standard, then restoration treatments would be implemented in these units</p> <p>In areas above, 15 percent detrimental disturbance, restoration work would be needed to improve the site condition where new activities are proposed. Units 5b and 12 would receive soil restoration treatment after project implementation in addition to minimizing soil disturbance during operations.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>(~20 years).” And on p. 3-21 the EA says “Effects of the fuels treatment should not exceed 40 years.”</p> <p>How is this consistent with the Forest Plan? This question is especially important since the assumption made by the FNF that justifies this is 1) that the Design Criteria or 2) restoration/mitigation measures will be effective in limiting and repairing damage as a result of past and proposed management activities. The EA provides no data that support this notion. While we agree that many of the mitigation measures such as laying downed woody debris are positive, it is not at all apparent that these are very effective in restoring soil biological function, what the added rate of recovery these measures bring about is, or that even with these measures the proposed harvest activities is justified and consistent with the FNF’s Forest Plan.</p> <p>Recently the Bitterroot National Forest reported, “It is acknowledged that the effectiveness of soil restoration treatments may be low, often less than 50 percent.” (USDA Forest Service, 2005b at p.3.5-20.) Mitigation techniques such as ripping and subsoiling to reduce compaction may alleviate a minor percentage of compaction, but produce soil mixing and contribute to erosion and displacement, which are not factored in. The EA does not disclose that proposed restoration and mitigation activities are, effectively “low”, what the actual success rate or increased rate of productivity recovery associated with them is, or what the risks and consequences are if they are ineffective or less effective than expected.</p> <p>Fire Suppression Policy, Carbon Storage and Climate Change</p> <p>Global climate change will have locally unpredictable but possibly dramatic effects on local ecological communities, biological processes and wildlife populations. Recent court decisions (see <i>Center for Biological Diversity v. National Highway Safety Administration and Natural Resources Defense Council v. Kempthorne</i>) have required federal agencies to consider the effects of their proposed actions on climate change in NEPA documents (i.e. EISs or Eas). The Hemlock Elk EA does not mention, much less discuss, the impacts of its proposal on climate change. Of particular concern is the role that fire suppression in fire prone ecosystems, such as that which characterizes much of the western U.S., has on long term carbon © storage. An inevitable result of fire is the production of some amount of charcoal left behind initially on the soil surface, which is eventually mixed into deeper soil horizons in the fire affected area or transported by natural processes of erosion and hydrologic movement to adjacent terrestrial</p>	<p style="text-align: center;">← 68</p>	<p>Long-term soil productivity would be maintained within these units following restoration.” The EA goes on to describe the specific restoration treatments that would be applied on page 3-23. Table 2-15 in the EA also describes these restoration treatments.</p> <p>These treatments were designed by the Soil Scientists who performed surveys on all proposed treatment units in the Hemlock Elk Project. These treatments were designed to protect soil and site productivity and have been determined to be effective based on primary literature and Forest Service Monitoring Results. Please refer to the Soils Specialist Report in the “Features Designed to Protect Soil and Site Productivity” Section for a discussion on this concern and for literature references that substantiate these recommendations.</p> <p>Response to Comment #68: The Hemlock Elk Project proposes to conduct vegetation management treatments to reduce hazardous fuels and restore and maintain forest health in the project area. It is not proposing to change the Federal fire management policy generally or to establish appropriate fire management response strategies for the project area.</p> <p>There is no evidence that the proposed project will have any discernible effect on carbon storage in the form of charcoal or on climate change. Deluca and Aplet (2008) point out that the cumulative carbon storage effect of charcoal from wildfires may be important over large geographic scales and over long time frames (millennia). At the scale of the specific project, treatments, including pile burning and other prescribed burning, will result in charcoal formation and incorporation into the soil. At broader scales, recent trends</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>systems or aquatic environments. Chemically, charcoal is highly concentrated C in the form of aromatic rings. In fire-prone systems soil charcoal is ubiquitous and plays numerous important biological roles. It is also extremely long-lasting, being highly resistant to decomposition. DeLuca & Applet (2008) feature these points,</p> <p>“Coniferous wood is generally about 50% C and 0.3% N, while coniferous wood charcoal is about 80% C and less than 0.1% N [nitrogen].... Charcoal represents an important component of the soil organic matter pool in temperate grasslands and forests. It contributes to the total water-holding capacity, ion exchange complex, and surface area of the soil environment. Once deposited in soil, charcoal is highly stable, having mean residence times 30–100 times longer than that of woody materials and 5–12 times greater than humic materials. Contributions to this pool are dependent upon the occurrence of fire events in which biomass is partially consumed.”</p> <p>DeLuca & Applet (2008) further highlight the persistence of charcoal in forest soils:</p> <p>“Litter and deposited twigs have mean residence times on the forest floor (organic surface horizons) or in the mineral soil environment of months to years, and large woody stems normally last for dozens of years. Although decomposition rates of charcoal in soil are difficult to determine (in part because of the longevity of charcoal), estimates place mean residence times at 3000–12 000 years, making it considerably more stable than non-charred plant tissues.“</p> <p>Therefore, the contribution of charcoal produced by recurrent fires to the C storage capacity of temperate forest ecosystems, and thus the role that temperate forests play in mitigating climate change, is significant. Deluca & Applet (2008) state:</p> <p>“Charcoal is not considered in most ecosystem models, which may limit the ability of these models to predict long-term storage of C in fire-prone ecosystems. This is perplexing, given that charcoal has been found to make up a substantial portion (up to 60%) of total C in grassland and forest soils, and considering that soils represent the largest body of terrestrial C storage.... Soil charcoal represents a “super-passive” form of soil C that provides semi-permanent C storage once it is in the mineral soil.... Thus, wildland fire need not be viewed only as a cause of C loss to the</p>		<p>toward increasing acres burned regionally (Westerling et al. 2006) and on the Flathead National Forest suggest that charcoal formation from wildfires has increased in recent years.</p> <p>The potential impacts of climate change on forest ecosystems in the western United States include increases in the frequency and severity of large wildfires and potential rapid growth in forest insect populations, and associated tree mortality. (Joyce et al. 2008). The Hemlock Elk Project is designed to address these risks by reducing the potential for large, high-severity wildfires; providing for public and firefighter safety should a wildfire occur in the project area; decreasing the probability of fires spreading onto private land; restoring and maintaining forest health; and reducing the growing risk for insects and disease infestation.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>atmosphere, demanding suppression, but rather, as a driver of long-term C sequestration.... Forest management strategies may directly or indirectly influence the accumulation of charcoal in the soil environment. Activities that exclude fire from the forest stand, including wildfire suppression, road building, and land development, eliminate the contribution of this stable, yet biochemically important form of C to the soil ecosystem. The long-term implications of such activities could result in shifts in ecosystem processes that cannot currently be easily predicted.... The importance of charcoal in soils and its contribution to long-term C storage requires greater consideration during ecological assessment, C modeling, and in forest management.”</p> <p>Given the great contribution of fire produced charcoal to C storage by forestland, the effects of fire suppression in fire prone forest systems may significantly reduce charcoal production and therefore minimize both the important biological role that soil charcoal plays in maintaining ecosystem function as well as its value as a long term source of C storage that in turn minimizes atmospheric C levels which contribute to global climate change.</p> <p>Yet, the FNF certainly intends to continue its fire suppression policies on a majority of its acres forestwide, as well as in the Hemlock Elk project area itself. Despite this, the FNF has never analyzed the impacts of this policy either as part of their Forest Plan analysis or in the Hemlock Elk EA. Given the importance of charcoal to C storage capacity of forest ecosystems and the huge role that forest systems play in global C sequestration, this represents a failure to comply with NEPA and violates the APA.</p> <p>TES Plants</p> <p>The EA states on p. 3-82 that only “...278 of the 739 proposed treatment acres were evaluated for sensitive species habitat and surveyed for TES species in 2007 by a Botanist and Biological Technicians. The remainder of the proposed treatment acres will be surveyed in summer 2008.” How will the public learn of the results of these surveys before a decision is made on this project and will we be given the opportunity to comment based on this information? The project area is heavily populated by small pond, wetland and riparian areas suited for several TES species. Therefore, protection of existing populations and potential future habitat is vital to the continued health of these populations.</p>	<p>← 69</p>	<p>Response to Comment #69: The project includes specific Design Criteria to minimize the impacts of the proposed actions to this species. The EA discloses that there may be some indirect effects regarding hydrologic changes, but that the Design Criteria would minimize these impacts. The Design Criteria include a 300-foot buffer around occupied ponds to minimize the potential for noxious weed spread.</p> <p>It should be noted that Howellia buffers have been defined by a specific amendment to the Forest Plan (Amendment 20) and have been in place many years. The buffers prescribed in the Forest Plan have been effective and the active howellia monitoring program which occurred for a decade found the</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response		
<p>Please contact us with any question you may have.</p> <p>Sincerely,</p> <p>Cameron Naficy WildWest Institute P.O. Box 7998 Missoula, MT 59807 406.544.4962</p> <p>And on behalf of:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"> <p>Michael Garrity Alliance for the Wild Rockies P.O. Box 505 Helena, Montana 59624 406.459.5936</p> </td> <td style="width: 50%; border: none;"> <p>Jeff Juel The Lands Council 25 W. Main, Suite 222 Spokane, Washington 99201 509.838.4912</p> </td> </tr> </table> <p>Literature cited Baker, William L.; Thomas T. Veblen, and Rosemary L. Sherriff, 2006. Fire, fuels and restoration of ponderosa pine–Douglas fir forests in the Rocky Mountains, USA. <i>Journal of Biogeography</i> (J. Biogeogr.) (2006) Booth, Derek B.; 1991. Urbanization and the Natural Drainage System—Impacts, Solutions, and Prognoses. <i>Northwest Environmental Journal</i>, v. 7, p. 93–118, 1991. Booth, Derek B. and Jackson, C. Rhett; 1997. Urbanization of Aquatic Systems—Degradation Thresholds, Stormwater Detention, and the Limits of Mitigation. <i>Journal of American Water Resources Association</i>: v. 33, no. 5, p. 1077–1090, 1997. Deluca & Applet 2008. Charcoal and carbon storage in forest soils of the Rocky Mountain West. <i>Frontiers in Ecology and the Environment</i> 6(1): 18-24.</p>	<p>Michael Garrity Alliance for the Wild Rockies P.O. Box 505 Helena, Montana 59624 406.459.5936</p>	<p>Jeff Juel The Lands Council 25 W. Main, Suite 222 Spokane, Washington 99201 509.838.4912</p>		<p>standards to be effective.</p> <p>A BA was conducted for Howellia. In response to this BA the FWS concluded that the project is not likely to result in loss of species viability or create significant trends towards listing.</p>
<p>Michael Garrity Alliance for the Wild Rockies P.O. Box 505 Helena, Montana 59624 406.459.5936</p>	<p>Jeff Juel The Lands Council 25 W. Main, Suite 222 Spokane, Washington 99201 509.838.4912</p>			

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>Frissell, C.A. and D. Bayles, 1996. Ecosystem Management and the Conservation of Aquatic Biodiversity and Ecological Integrity. Water Resources Bulletin, Vol. 32, No. 2, pp. 229-240. April, 1996</p> <p>Hayward, Gregory D., 1994. Information Needs: Great Gray Owls. Chapter 17 In: Hayward, Gregory D., and Jon I Verner, 1994. Flammulated, Boreal, and Great Gray Owls in the United States: A Technical Conservation Assessment. USDA Forest Service General Technical Report RM-253.</p> <p>Hessburg et al. 2007. Re-examining fire severity relations in pre-management era mixed conifer forests: inferences from landscape patterns of forest structure. Landscape Ecology 22: 5-24.</p> <p>Hessburg et al. 2000. Recent changes (1930s-1990s) in spatial patterns of interior northwest forests, USA. Forest Ecology & Management 136: 53-83.</p> <p>Keeling et al 2006. Effects of fire exclusion on forest structure and composition in unlogged ponderosa pine/Douglas-fir forests. Forest Ecology & Management 237:418-428.</p> <p>Kuennen, L., G. Edson & T. Tolle, 1979. Soil Compaction Due To Timber Harvest Activities. Northern Region, May 1979</p> <p>Kuennen, Lou; Henry Shovic, Bill Basko, Ken McBride, Jerry Niehoff, and John Nesser, 2000. Soil Quality Monitoring: A Review of Methods and Trends in the Northern Region. May 2000.</p> <p>McClelland BR and McClelland PT. 1999. Pileated woodpecker nest and roost trees in Montana: links with old-growth and forest "health." Wildlife Society Bulletin 1999, 27(3): 846-857.</p> <p>Nesser, John A., 2002. Notes from the National Soil Program Managers meeting in Reno as related to soil quality issues. John A. Nesser, Regional Soil Scientist, USDA Forest Service, Northern Region. May 23, 2002.</p> <p>Page-Dumroese, D.; Jurgensen, M.; Elliot, W.; Rice, T.; Nesser, J.; Collins, T.; Meurisse, R., 2000. Soil quality standards and guidelines for forest sustainability in northwestern North America. Forest Ecology and Management 138 (2000) 445-462.</p> <p>Roth et al 2007. Geographical gradients in diet affect population dynamics of Canada lynx. Ecology 88 (11): 2736-2743.</p> <p>USDA Forest Service, 1998-1999. Northern Region Overview Detailed Report and Northern Region Overview Summary. USDA Forest Service Northern Region, Missoula, Montana.</p> <p>USDA Forest Service, 2000c. Forest Plan Monitoring and Evaluation Report for 1998. Idaho Panhandle National Forests.</p> <p>USDA Forest Service, 2004a. Logan Creek Ecosystem Restoration Project Final Environmental Impact Statement. Flathead National Forest.</p> <p>USDA Forest Service, 2005a. Sheep Creek Fire Salvage Project Final</p>		

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments

C-10 Cameron Naficy, WildWest Institute	Comment #	Resource Area/Response
<p>Environmental Impact Statement. Beaverhead-Deerlodge National Forest. USDA Forest Service, 2005b. Middle East Fork Hazardous Fuel Reduction Draft Environmental Impact Statement. Bitterroot National Forest. Veblen, Thomas T. 2003. Key Issues in Fire Regime Research for Fuels Management and Ecological Restoration. USDA Forest Service Proceedings RMRS-P-29.</p>		

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

C-11. Neil Meyer	Comment #	Response
 <p>"Anne Dahl" <swanec@blackfoot.neb> 09/08/2008 08:59 AM</p> <p>To <JIngebretson@fs.fed.us>, "Stephen Brady" <sbrady@fs.fed.us> cc</p> <p>Subject Hemlock Elk comment, Neil Meyer</p> <p>Hi John:</p> <p>Below are Neil Meyer's brief comments on the Hemlock Elk project. Please note this is not a comment from Swan Ecosystem Center. This is Neil's comment alone. You may receive other comments from people involved with Swan Ecosystem Center.</p> <p>Neil is concerned with the spread of noxious weeds. He prefers Alternative C. He recommends winter logging, with some summer site preparation to encourage lodgepole regeneration.</p>	<p>←1</p>	<p>Response to Comment #1: We appreciate your comment here and your input from the field trip. The Selected Alternative retains some of the elements of Alternative C, but where winter logging would have been required, the Selected Alternative will require forwarding (though winter logging could be optionally used) and will use Road Use Permits on existing Plum Creek Roads to significantly reduce temporary road construction. This combination of access and logging will greatly reduce ground disturbance and will reduce the potential for noxious weed spread, which were major considerations in the winter logging alternative. In addition, a design feature of the project under all alternatives is the requirement for cleaning machinery before use in the area and pre- and post-treatment of haul roads for noxious weeds. We decided that the requirement to log the units in Alternative C in the winter might not be entirely feasible based on the highly variable snow depths we've seen in the project area in the past few years. Rather than base these operations on conditions that have been sporadic, we felt that the use of forwarder harvesting would more reliably provide some (though not all) of the benefits of winter logging.</p> <p>For a more detailed explanation of the final alternative, please see the</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

C-11. Neil Meyer	Comment #	Response
Thank you. Anne		enclosed maps and unit summaries. The Selected Alternative would propose treatment on about 498 acres compared to the 739 acres in Alternative C. Temporary road construction under the Selected Alternative is about 1.3 miles compared to about 4.7 miles in Alternative C.

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter # C-12 – Mike Stevenson	Comment #	Response
<p>9-14-08</p> <p>Mike Stevenson</p> <p>Dear Hemlock Elk Project Team,</p> <p>Thank you for the May 30th field trip. I learned a lot about the complexity of your upcoming management decisions and I appreciate the opportunity for involvement.</p> <p>The older lodgepole in section 16 is going to be a tough call. Hopefully the option of leaving most of it intact until the new re-gen around it can provide some wildlife security, can work into the timelines of an extended project. I wish we could have had time to look at section four because I have some real concerns with the current proposals there.</p>	<p>← 1</p>	<p>Response to Comment #1: The lodge-pole pine stands in Section 16 vary in the amount of pine beetle infestation that is occurring. Stand 20 is nearly pure lodgepole and a very high percentage of the trees are already dead, dying, or are showing numerous beetle hits from this year. For this reason, Unit 20 will be retained in the final decision as a regeneration harvest with associated slash treatment and reforestation (which will feature larch). Stand 22 also has a high percentage of the lodgepole affected with beetles. This stand, however, has a more significant component of other species such as Douglas-fir and larch which will be retained. However, lodgepole pine, which is in decline, does dominate the stand and the harvest will result in a Seed Tree with Reserve groups of non-lodgepole species. These stands do not appear likely to remain intact in even the relatively near future.</p> <p>The other predominantly lodgepole stands in Section 16 (Stands 21 and 23) have less beetle mortality than Stands 20 and 21. Studies of thinned lodgepole stands have shown a high percentage for success in reducing the rate of mortality from pine beetle and could likely extend the time frame to keep these two stands viable while adjacent stands on current PCTC ownership regenerate further. Without some degree of treatment, we anticipate that a much higher percentage of Stands 20 and 21 will be killed by beetle in the relatively near future. For this reason, we are proposing thinning of Stands 21 and 23 (retaining non-lodgepole species and thinning the lodgepole component of the stands). Based on comments such as this, the final decision will defer treatment in Units 16, 24a and 24b, 18a, 18b, and 19 from the decision. These units are largely dominated by species other than lodgepole. Though these stands do exhibit signs of forest health problems and contain some lodgepole pine, they appear likely to maintain</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter # C-12 – Mike Stevenson	Comment #	Response
<p>As mentioned, I have lived in the middle of this whole project area since 1980. Specifically, my 40 acres are near the center of section four. I know the area between Elk Cr. and Cold Cr. especially well, from their confluence with the Swan to their headwaters in the Missions. I have spent much of my life in this area hunting, hiking, trapping, logging, and have been conducting a carnivore survey here with N.W.C. for about the last ten years.</p> <p>I have seen many changes to this landscape in the last 30 years. When I first came here, old growth forests connected my place to the Mission Mtn. Wilderness. Because of that connection, lynx, marten, wolverine, and even fisher used much of this lower elevation habitat on and around my place. Now, mainly because of Plum Cr. over management, those carnivores are no longer here and are absent or very scarce throughout the whole valley. Once in a while a marten will make its way down from the Missions, but because of all the open and thinned country (see photo), it usually gets picked off by owls or coyotes before long.</p> <p>The old growth larch forest with its thick understory in section 4 (see photo) is the last island of it left of any size for many miles around here. Because of that and because it is bordered on the south by the Elk Cr. riparian corridor, it is an especially heavily used and critical wildlife area. Right now, for example, it is full of cavity nesting birds. In the winter it is used by elk for its unique combination of thermal cover over abundant black moss on the understory branches. Grizzlies use it 8 months of the year.</p> <p>I believe the best management prescription for section 4 would be to leave it alone. At least until some of the surrounding Plum Cr. land has a chance to fill in. It does not make sense to take out the</p>	<p>← 2</p>	<p>their integrity as stands for 10 to 20 years while other recently harvested stands recover. See the Rationale for the Decision for more detail regarding the overall rationale for the decision relative to stands in Section 16.</p> <p>Response to Comment #2: Based on this comment and others, the units in Section 4 were re-evaluated. The final decision will defer treatment in Units 5a, 3b, 6 and Unit 7. Unit 5b will be harvested using a Sanitation prescription and will be forwarder logged. Unit 3b is adjacent to private property owned by the commentor who has done fuels reduction between the property line and his home. The pre-commercial thinning in Unit 3a, in contrast, will be retained as it is closer in proximity to a home with less fuel reduction between it and the timber stands on NFS land. Unit 6 will be deferred until the regeneration within in it has advanced sufficiently to help reduce soil compaction within the unit. More detail for the rationale for the decision relative to treatments in Section 4 is contained in the Rationale for Decision portion of this DN.</p> <p>No stand targeted for treatment in this project meets the criteria of being old growth stands. Though some stands do contain individual large trees, these stands are not old growth stands using the Green et al. guidelines. Within Section 4, only Unit 5b and 3a will be treated at this time. Within Unit 5b, those trees most heavily infected with mistletoe would be treated, leaving a stand with its large tree component, but reducing the rate of spread of larch dwarf mistletoe within the stand and reducing fuel continuity. The resulting stand is intended to be healthier and less prone to stand replacement burning while still retaining wildlife cover values.</p> <p>The final decision as described in this document will treat 4 acres by a Pre-Commercial Thinning treatment (with treatment of the slash created) in Unit 3a adjoining private property with a home nearby. Unit 5b will treat 41 acres using a relatively light prescription that will retain hiding cover and wildlife values while treating a stand within the suitable timber base and within the WUI that does have an existing and increasing mistletoe problem. Units 3b, 5a, 6, and 7 are not carried forward into the final decision. The final decision leaves a continuous forest stand on all of Section 4. The thinning in Unit 3a will leave a stocked pre-commercial stand with less fuel and less fuel continuity than currently exists. This unit is close to a residence with a situation that is not the same as for the</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment

Letter # C-12 – Mike Stevenson	Comment #	Response
<p>old larch and thin the understory at this time (treatment unit SA-B, 7). The understory is mostly grand fir, doug fir, and spruce. There is very little larch re-gen around to get infected, 80 why the sanitation cut for the mistletoe? That old larch with its understory is a forest in transition. Why does it need to be brought back to a 'historical' larch stand? Again, because of the unique island of this forest type, it completes a healthy and much needed mosaic of diversity in this part of the valley.</p> <p>Also, I believe treatment units 6 and 9 should be left alone. They are such small units with such small diameter re-gen that if anything it could just be hand thinned (loped and scattered) to help with moisture retention in the soil. Certainly, mechanized equipment wouldn't be nessecary in such small areas. Keep in mind the bears are already doing a pretty good job of thinning in there with their bark stripping.</p> <p>In my opinion, the few homes here in section 4 are already safe enough from fire. All the homeowners have thinned and cleared around the buildings and there are large pond-riparian areas on the west side of most residences. The understory removal in treatment units 3A-B near my place is especially unnessecary. I would rather accept some fire risk than compromise the remaining undergrowth habitat.</p> <p>Again, please take a close look at the aerial photo and keep in mind that the thinned and cleared landscape extends far beyond the photo, especially into the block Plum Cr. ownership to the northwest. Good luck with your decisions and please keep me posted on any further meetings or field trips pertaining to this project.</p> <p>Sincerely, </p>		<p>residence described in the comment (that residence is not separated by water or a large distance from the National Forest boundary.)</p> <p>Unit 6 is a pre-commercial unit that was planted to ponderosa pine after previous harvest. Thinning the stand will be deferred due to soils conditions generated from the previous harvest that appear to best be alleviated by allowing the current stand to mature. Unit 9 is a Thin From Below in Section 8. The comment may have been directed at Unit 7, which is a Commercial Thin From Below within Section 4, which appears to be the context for this particular comment. The size of the trees targeted to be removed in this unit are generally small; however, units with similar treatment have been done successfully. The unit was dropped primarily because species composition and general health of the stand could allow for deferment at this time, and there has been relatively extensive harvest east of the unit on PCTC land and some fuel reduction done on private property north. Though not an easy decision, on balance, we felt that harvest could be deferred on this unit given the combination of stand/fuel conditions within the unit, and current conditions on the adjoining private lands.</p>

Hemlock Elk Fuels Reduction and Forest Health Decision Notice
Appendix 5 – Response to Comments Received on the Environmental Assessment
