United States
Department of
Agriculture

Forest Service

Northern Region

Idaho Panhandle
National Forests

April 2008

Coeur d'Alene River Ranger District
Deerfoot Resource Area

Decision Notice

Deerfoot Decision Notice

Table of Contents

1. Introduction to the Deerfoot Project
   - 1.1. Overview of the Resource Area ..... Page DN-1
   - 1.2. Purpose and Need for Action ..... Page DN-2
   - 1.3. Public Involvement and Proposal Development ..... Page DN-2
   - 1.4. Overview of the Analysis and Decision Process ..... Page DN-5

2. Specific Activities & Features of the Selected Alternative
   - 2.1. Description of Activities That Will Occur Under the Selected Alternative ..... Page DN-6
   - 2.2. Implementation Features Related to Resources ..... Page DN-8
   - 2.3. Schedule of Activities ..... Page DN-11
   - 2.4. Mitigation That Will Be Required to Occur ..... Page DN-11
   - 2.5. Implementation and Effects Monitoring ..... Page DN-11

3. Decision Rationale
   - 3.1. Effectiveness of the Alternatives in Meeting the Purpose and Need ..... Page DN-12
   - 3.2. Effects of the Alternatives on Other Resources ..... Page DN-13
   - 3.3. Consistency With the Goals and Findings of Other Laws, Regulations, and Policy ..... Page DN-16

4. Finding of No Significant Impact — Page DN-19

5. Documents and Project Files — Page DN-22

6. Appeal Rights & Implementation — Page DN-22

Appendix A – Response to Public Comments

ENCLOSURE - Map of Activities under the Selected Alternative

List of Figures

Figure 1. Vicinity map of the Deerfoot Resource Area ..... Page DN-1

List of Tables

Table 1. Summary of activities in the Deerfoot Resource Area under the Selected Alternative ..... Page DN-7

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, 1400 Independence Avenue SW, Washington DC 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

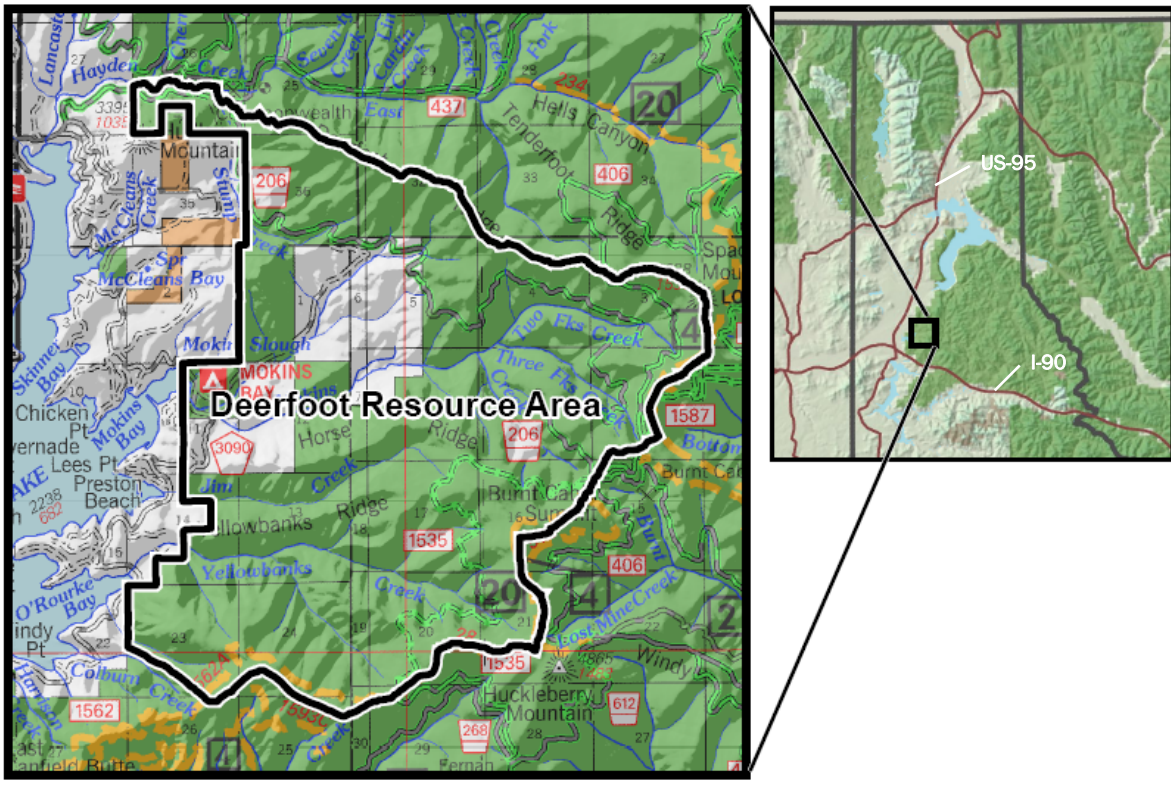
1. Introduction to the Project

1.1. Overview of the Resource Area

The 10,540-acre Deerfoot Resource Area is located in Kootenai County, Idaho (Figure 1). Popular with local recreationists, it is close to several communities, including Hayden, Hayden Lake, Dalton Gardens and Coeur d'Alene, which have a combined population of approximately 56,610. The western edge of the area is visible from Hayden Lake and private lands along the lake, while higher elevations are visible from the Rathdrum Prairie. Elevations in the resource area range from about 4,700 feet along the ridge between Huckleberry Mountain and Spades Mountain, to 2,200 feet along the shores of Hayden Lake.

There are six watersheds in the area: Stump Creek, Nilsen Creek, Mokins Creek, Jim Creek, Yellowbanks Creek and the Hayden face tributary. All of the streams flow through private land in their lower reaches before eventually feeding into Hayden Lake. Forest vegetation is dominated by grand fir and Douglas-fir. About 5 percent of the timber on National Forest System lands is young (seedling, sapling or shrub), about half is small to medium-sized timber, and the remainder is mature and large timber. The resource area does not include any designated wilderness or roadless areas.

Figure 1. Vicinity map of the Deerfoot Resource Area.



1.2. Purpose and Need for Action

The Forest Service is proposing activities in the Deerfoot Resource Area to reduce hazardous fuels and promote more resilient, healthier forests. The Deerfoot Resource Area is within the wildland-urban interface (WUI) as defined by Kootenai County. Being in the WUI means that the Deerfoot Resource Area's location just east of Hayden Lake is very near to private land, homes and community infrastructure. An uncontrolled fire in the WUI could threaten lives, homes, infrastructure, air quality, and tourism. A severe wildfire could also result in the loss of environmental values such as forest cover, wildlife habitat, soil productivity, water quality, and visual quality.

The need for action in the Deerfoot Resource Area begins with the premise that the dry sites (34 percent of the resource area) have been most altered by the departure from the historical fire regime. Dry sites generally had a shorter fire return interval than moist sites, and so have missed more fires and have experienced more pronounced changes than moist sites. Dry sites are generally south-facing slopes that receive the most sunlight. Since they are drier, historically they burned more often in wildfires than shady, moist sites. Usually, fuelbed and tree density conditions have changed the most on the southerly dry aspects, and these can be the first areas designated for treatment.

By treating southerly aspects initially, large landscapes composed of contiguous fuelbeds and dense and layered tree cover can be broken up in a highly intuitive manner (Agee et al. 2005; PF Doc. FF-2).

The departure from the historical disturbance regime on these dry sites and other factors such as historical logging, and insect and disease activity have resulted in:

- *An increase in hazardous fuels*
- *A shift in species composition from fire-resistant, shade intolerant species such as ponderosa pine and western larch to more Douglas-fir and grand fir*
- *Loss of dry-site stand structures that were created and maintained through periodic fires*
- *Landscapes that are more homogeneous with a lack of diversity in structural stages*

Given the current conditions in the Resource Area, the purpose of this project is to:

A. Reduce hazardous fuels (surface, ladder and crown fuels) on dry sites

B. Improve and maintain proportions of resilient species such as ponderosa pine and western larch on dry sites

C. Improve and maintain dry site structure at both the stand and landscape scales by promoting

1) stands with a significant component of large, old, resilient trees; and
2) a distribution of structural stages across the landscape that is sustainable and will provide a range of habitats

The FireSmart program in Kootenai County has already done extensive work near the Deerfoot Resource Area reducing fuels within the Home Ignition Zone (PF Doc FF-80). In addition, both FireSmart and the Forest Service have completed fuel reduction work to ensure safe access and egress in case of a fire along the main road around Hayden Lake (EA page 3-61). A natural progression is to then move farther out from the community; Finney and Cohen (2003, PF Doc FF-31) acknowledge that *"Wildland fuel management in low-elevation forest types, extending perhaps many kilometers away from urban locations, however, is critical to reducing the likelihood that wildland fires will spread to urbanized areas and pose ignition threats."* Since the purpose of this project has several aspects, each treatment in the Selected Alternative responds to the purpose and need in varying degrees, as described in Section 3, Decision Rationale.

1.3. Public Involvement and Proposal Development

The NEPA process term "scoping" (40 CFR 1501.7) is designed to determine the potential issues associated with a proposed action and to identify those issues and concerns that may be significant to the decision. Scoping is used to develop and refine alternative management actions using a collaborative process. Scoping for this project was initiated through public notification on April 17th, 2007 with the *Quarterly Schedule of Proposed Actions* for the Idaho Panhandle National Forests, and continuing through the current issue. During the initial

scoping period, an article was published in the Coeur d'Alene Press describing the project and requesting comments.

In May 2007, scoping was initiated with a letter to the interested public providing a description of the current conditions in the Resource Area, the purpose and need for the project, the proposed action, and a map of the proposed activities. In response to the scoping letter, replies were received from the Idaho Department of Parks and Recreation, WildWest Institute on behalf of The Lands Council (TLC), Alliance for the Wild Rockies and Kootenai Environmental Alliance (KEA). KEA also provided a separate letter. The Idaho Department of Parks and Recreation stated that they did not have any concerns and wanted to be removed from the mailing list.

The project interdisciplinary team carefully reviewed the comments received, but did not find any additional issues that were not already considered in the design of the proposed action. Other alternatives suggested but not considered in further detail are described in Section 2.8 of the EA.

Development of alternatives was based on the existing condition of resources and designed in response to the purpose and need identified for the project (EA, p. 2-12). Two alternatives were considered in detail – the No-Action Alternative and the Proposed Action Alternative. The No-Action Alternative analyzed for this project represents the effects of not implementing the proposed activities, as well as the effects of past, ongoing and reasonably foreseeable activities. No new activities are proposed on federal lands in the Deerfoot Resource Area under the No-Action Alternative.

Environmental Assessment Comments

Detailed descriptions of the alternatives, existing conditions, and environmental effects that would occur under each alternative were analyzed and documented in the Deerfoot Environmental Assessment (EA), which was mailed to the public in February 2008. The EA was available to the public for a 30-day review, during which time three comment letters were received from:

1. Jonathan Oppenheimer, Idaho Conservation League (PF Doc PI-09)
2. Mike Mihelich, KEA, also on behalf of The Lands Council (TLC) and WildWest Institute (PF Doc PI-10)
3. Jeff Juel, TLC, also on behalf of WildWest Institute, KEA, and Alliance for the Wild Rockies (PF Doc PI-11)

All of the comment letters are included in the project file, and responses to each topic and/or concern are included in Appendix A. Comments that either brought up new information or specific concerns with the Deerfoot Resource Area project are addressed below. Responses to the remainder of their comments are provided in Appendix A.

"The EA doesn't adequately consider that vegetation patterns, including tree species, will be different than present or past due to the different annual weather patterns realized with our changing climate due to global warming." (Jeff Juel, TLC)

This comment is well taken, especially in light of a recent (1/16/2008) FS Chief speech about climate change and forest management at a National Conference on Science, Policy and the Environment (PF Doc. VEG-65). She started with "forests can make a difference." Chief Kimbell discussed how the FS has been focusing on climate change research for a very long time (about two decades) and has a century of science and management experience. She ended with a list of science needs which included needs associated with the issue of uncertainty and how to manage it. The Forest Service website (http://www.fs.fed.us/kidsclimatechange/climate.shtml) has much relevant climate change information.

Foresters have always managed natural resources knowing that fire, weather, insects, humans, etc. could change the forest at any time or over time. Part of the art and science of forest management is how we manage some level of uncertainty. Natural resource management based on management of diversity and resilience comes from this management of uncertainty. The fire/fuels and vegetation project files have many references associated with change. While we know climates change and are changing; we do not know detailed specifics of how our particular ecosystem will change, how the changes affect animals and plants and what the landscape-scale conditions are most likely to sustain ecosystems in a changing climate. "Although quantitative models can estimate a range of potential directs and magnitudes of environmental changes and forest responses in the future, models rarely can predict the future with the level of accuracy and precision needed by resource managers" (Pilkey and Pilkey-Jarvis, 2007 from Millar, et al., 2007 at PF Doc. VEG-R89).

"The premise of an uncertain but certainly variable future is effectively best addressed with approaches that embrace strategic flexibility" (Hobbs et al. 2006 from Millar et al 2007 at PF Doc. VEG-R89). "Managing in the face of uncertainty will require a portfolio of approaches, including short term and long term strategies that focus on enhancing ecosystem resistance and resilience" (Millar 2007 at PF Doc. VEG-R89). "Many forest plants and animals have evolved to adapt to… variability, but the effects of drastic changes in silvicultural practices do not

seem warranted. Instead, modification of well-developed practices will likely be sufficient" (Tappeiner, 2007 at PF Doc. VEG-R87).

The Forest Service strategy for dealing with climate change and helping forests adapt is to restore the resilience of forest, range and aquatic ecosystems (Forest Service 2/29/2008 Briefing Paper; PF Doc. VEG-66). The Deerfoot EA vegetative resources "objectives relate to the need for a healthy and resilient forest ecosystem" (EA pg 2-6). "Healthy landscapes…have adapted over time to have high resilience to local disturbances and lower susceptibility to catastrophic events. Resilience is the amount of change that a system can absorb before it undergoes a major shift in composition, structure or processes… Much of the forest vegetation analysis compares the existing condition and the outcome of the proposed action to the desired condition in the Deerfoot Resource Area (PF Doc. VEG-7)" (EA pg 3-2). This desired condition was not developed only from a view of the past. "The desired condition is specific to the Deerfoot Resource Area and was developed with a historic view of the Coeur d'Alene Basin and current restoration needs developed by the Geographic Assessment **as well as** some level of uncertainty to completely predict future conditions" (EA pg 3-2). Specific to the comment associated with vegetation patterns including tree species, the Deerfoot desired condition focuses on a diversity of species which includes <u>all</u> the native species. The desired condition calls for an increasing trend above the current condition of the native disturbance (drought, fire, insects, disease, etc.) resilient species ponderosa pine, western larch and white pine. The keys here are diversity and resilience of composition, structure and function.

<u>"We believe that the inevitable destruction of old-growth quality due to the 525 feet of new road through old growth (EA at 3-28) is ill-advised simply because of the existing deficit of true old growth in the District."</u> (Jeff Juel, TLC)

EA pg 3-27 to 29 discloses full compliance with Forest Plan old growth standards. Old Growth Standard 10g is the applicable Forest Plan standard for roads in allocated old growth (EA pg 3-28). This standard states: Roads should be planned to avoid old growth management stands to maintain unit size criteria. At EA pg 3-28, "Under the Proposed Action Alternative, no permanent road construction would occur in stands allocated for old growth management… the proposed action alternative would construct a temporary road to the helicopter landing for units 23, 24 and 25. This temporary road would go through about 525 feet (about 0.1 miles distance and less than one-third of an acre) of allocated old growth. The proposed route was designed to avoid harvest of large trees in allocated old growth due to the following design feature (see Chapter 2): 'Adjustment to temporary road location for units 23, 24 and 25 will be made so as to minimize the removal of any trees that are 21 inches or greater diameter at breast height.'" From PF Doc. VEG-36, the old growth patch that will be influenced by this temporary road is patch H, which is 27 acres. At EA pg AG-24 temporary roads are defined as "those roads not intended to be retained for long term management". The temporary road will be obliterated at the end of the project. This patch currently meets FP Old Growth Stand 10f for patch size criteria and will continue to meet these criteria even if the worst case occurred and one-third acre of old growth was lost. Relevant to this discussion is that given the inherent variability of vegetative arrangement and canopy cover in allocated old growth, one third of an acre will not affect patch H meeting FP definitions for continued allocation as old growth.

<u>Both Mike Mihelich and Jeff Juel brought up concerns about monitoring, in particular Forest Plan monitoring reports.</u>

At the time of the Deerfoot analysis the latest published FP Monitoring Report available was 2004. However, where more recent information was available, that information was included in the analysis. For example: at EA pg 3-25: "Updated TSMRS queries were run in 2007 for an upcoming Forest Plan Monitoring Report (PF Doc. VEG-28)…" In addition, draft soil monitoring for the year 2005 through 2007 are found in the soils project files (PF Doc. Soil-R-70 and PF Doc. Soil-R-71).

<u>"We are concerned that the project proposes new road construction, and encourage you to drop the units accessed by these roads, or to reconsider helicopter yarding in these units as an alternative."</u> (Jonathan Oppenheimer, ICL)

The segments of new road construction are located high on ridges that will have minimum impact on water quality. These roads will be used for timber harvest and post treatment activities, but will then be closed to public use. Due to current economic considerations, it is not viable to convert these units to helicopter yarding. Dropping units that need road access does not meet the purpose and need of the project to reduce fuels and improve species composition, as well as stand and landscape structure in those areas. There have been 32 miles of road decommissioning within the Deerfoot Resource area under past projects, which have contributed to reducing road densities.

"With regards to the logging, we ask you to consider incorporating additional timing restrictions to protect soils in the project area. We encourage you to reconsider winter logging in the project area." (Jonathan Oppenheimer, ICL)

With the nature of the proposed harvest units in the Deerfoot Resource Area being primarily low-elevation, warm aspects, restricting harvest to be completed on top of a winter snow pack or on frozen ground would likely be highly limiting, or even impossible for an operator to complete in a given timeframe. There is no plan to restrict harvest operations to winter months, but winter operations could take place, if the conditions were appropriate. Specific features of the proposed action designed to protect soils are described in the EA on page 2-13. In addition, the combination of past activities and those that would occur under the proposed action meet both the Regional Standard of not exceeding 15 percent detrimental disturbance as well as the Forest Plan Standard of 20 percent (EA page 3-128).

"We encourage you to evaluate the feasibility of Free Selection as an alternative to regeneration logging in the project area, or at least to reduce the intensity of regen logging, adding a component of free selection, thin from below, and other prescriptions to meet the purpose and need." (Jonathan Oppenheimer, ICL)

The project file contains 3 references (VEG-R77, R80 and R136) related to the use of 'free selection'. First, 'free selection' is not standard terminology from either Society of American Foresters or the Forest Service. At PF Doc. VEG-R77, 'free selection is defined as a "multi-entry, uneven aged system". At EA 3-29 under the Forest Plan Timber Standards, "while uneven-aged structures can be viable on many dry sites (where Deerfoot treatments are focused) similar to this area, such treatments were not proposed given the current stand health concerns and the lack of long-lived early seral stand species compositions". In addition, multi-entry harvest systems require higher road densities than single harvest entry systems. Keeping road densities to a minimum is traditionally an important multi resource concern, as it also is in Deerfoot. At EA pg 3-17 is a detailed explanation of the proposed regeneration harvest treatments which are described as variable retention shelterwoods with reserves.

"We encourage you to retain all live white pines." (Jonathan Oppenheimer, ICL)

At EA pg 2-11 under the Proposed Action, Features Designed to Protect Forest Vegetation, "Treatments would meet white pine retention guidelines (USDA, 1994; PF Doc. VEG-R58)". These guidelines assist forest managers in making decisions regarding white pine in a way that will contribute to our long tern goal of restoring white pine as a functioning component of the ecosystem.

"The EA is confusing with regards to the differentiation between prescribed burning, underburning and broadcast burning. This should be clarified in the final." (Jonathan Oppenheimer, ICL)

Definitions of these terms follow.

Prescribed Burning: A general term to describe the application of fire to the landscape. Terms with more specific definitions or types of prescribed burning include:

Underburning: A type of burning designed to reduce fuel accumulations beneath an overstory tree canopy, and/or to achieve specified levels of site preparation.

Broadcast Burning: Prescribed burning through a continuous fuel cover, designed to treat one or more land management objectives, such as site preparation. Broadcast burning is generally done where there is little to no overstory.

Ecosystem Burning: Treatment of fire dependent ecosystems to meet multi resource objective identified in Forest Land Management Plans.

** Specific definitions are from Forest Service Handbook (FSH) 2409.21e , available at http://www.fs.fed.us/ipnf/eco/yourforest/gis/*

Other public comment included a phone call from Jack O'Brien (PF Doc PI-12), who was concerned about the visual impacts of the project, particularly if any clearcuts were planned on Deerfoot Ridge, which they are not.

1.4. Overview of the Analysis and Decision Process

National Forest planning takes place at the national, regional, forest, and project levels. The Deerfoot EA is a project-level analysis; its scope is confined to addressing the purpose and need and possible environmental consequences of the project. It does not attempt to address decisions made at higher levels. It does, however, implement direction provided at those higher levels. The Deerfoot decision does not preclude the need for future decisions to help meet desired conditions in the resource area.

The Idaho Panhandle National Forests (IPNF) Forest Plan (USDA 1987) provides the primary management direction for this decision. The Forest Plan describes goals and management standards for the IPNF as a whole

and for the subdivisions of the Forest referred to as management areas. Other direction is provided by the USDA Forest Service Strategic Plan, National Fire Plan, Interior Columbia Basin Strategy, Coeur d'Alene Basin Geographic Assessment, Northern Regional Overview, and the Kootenai County Wildland Urban Interface Fire Mitigation Plan. The analysis and decision processes for this project are based on the consideration of the best available science. The manner in which best available science is addressed can be found through the disclosure of rationale found within this decision, the response to comments, the EA, Biological Assessment, and the Project Files.

I have decided to implement the Proposed-Action Alternative (hereafter referred to as the Selected Alternative) as described in the February 2008 EA, without modification (please refer to the enclosed Selected Alternative map). Specific activities and features of the Selected Alternative are described in Section 2 of this document, followed by a discussion of the rationale behind my decision (Section 3), the Finding of No Significant Impact (Section 4), availability of documents and project files (Section 5), and appeal rights and implementation information (Section 6).

2. Specific Activities & Features of the Selected Alternative

2.1. Description of Activities That Will Occur Under the Selected Alternative

The Selected Alternative was crafted to meet the purpose and need while addressing two major concerns: the presence of allocated old growth and/or suitable flammulated owl habitat. The Proposed Action takes a cautious approach to managing allocated old growth and maintaining suitable flammulated owl habitat while reducing the risk of future loss to fire. No timber harvest activities are proposed in either allocated old growth or suitable flammulated owl habitat. The only activity proposed in these habitats is prescribed burning, which would be implemented carefully with specific objectives to maintain the key characteristics of these habitats.

The Selected Alternative includes vegetative treatments, prescribed burning, timber harvesting, stand rehabilitation, associated road work, culvert installations, and the construction of barriers to illegal travel. More detailed descriptions of the activities follow.

Prescribed Burning

Prescribed burning reduces hazardous surface and ladder fuels that contribute to wildfire spread and intensity. Prescribed burning has been proven effective at slowing large wildfire spread and at reducing wildfire severity. The prescribed burning would occur on south-facing aspects, and would be conducted at times of the year when risk of escape is minimal and when soil productivity is protected by higher moisture content. Burns would be implemented in a manner that would protect and enhance dry site wildlife habitat. Prescribed burning in allocated old growth would reduce fuels without changing old growth allocation status and would help restore stand structures more characteristic of dry-site stands shaped by periodic fire. Burning would be implemented in a manner that would comply with applicable regulations such as the Clean Air Act and the Inland Native Fish Strategy (INFS, 1995; PF Doc. CR-003).

Timber Harvesting

Timber harvesting would be used to re-establish long-lived early seral species such as ponderosa pine, white pine, and western larch, which have declined significantly over the last 80 years. Most stands are now dominated by Douglas-fir and grand fir, which must be harvested in order to regenerate the stand to long-lived early seral species. Without harvest of the overstory, the planted ponderosa pine, white pine and western larch will not survive. Once some of the overstory is removed, prescribed burning would reduce fuels and prepare the site for establishment of long-lived, early seral species. Where there are more ponderosa pine and western larch still on site, commercial thinning would be used to retain resilience. However, since there are proportionately few ponderosa pine and western larch, the extent of thinning activities is very limited in this proposal. The result of all of the regeneration activities would be a reduction of hazardous fuels, increased long-lived seral species, and appropriate structures and arrangement on the landscape.

Forest Service policy normally limits the size of openings created by even-aged silvicultural methods to 40 acres or less. With some exceptions, creation of larger openings is allowed with Regional Forester approval. In the Selected Alternative, some units exceed the 40-acre openings size to create more effective fuel reduction treatments and to accomplish the goals of improving species composition, stand structure and landscape structure at meaningful scales.

Vegetative Rehabilitation

Vegetative rehabilitation is proposed for a 15-acre area where we want to re-establish long-lived early seral species. This rehabilitation would consist of prescribed burning to prepare the site prior to establishment of ponderosa pine and western larch.

Roads and Culverts

In order to complete the timber harvesting, road construction would be needed for six-tenths of a mile of new permanent road, six-tenths of a mile of temporary road, and four-tenths of a mile of temporary skid road. Timber harvesting would be completed using helicopter, skyline and tractor yarding systems. All timber harvesting and road building has been carefully planned to comply with all regulatory requirements such as the Forest Plan, Clean Water Act, Inland Native Fish Strategy, and the Endangered Species Act. Activities would be completed using Best Management Practices (BMP's) as identified in Idaho Water Quality Standards (Appendix A). Measures to reduce the spread of noxious weeds, protect wildlife security and protect soil productivity are incorporated into the Proposed Action.

In the past several years, a significant amount of watershed restoration such as road decommissioning, culvert upgrades and removal, and stream habitat improvement have been implemented in the Deerfoot Resource Area. Along with these past efforts, we are proposing the installation of one relief culvert and one culvert upgrade. This drainage work would allow for more water flow, reducing the risk of culvert failure and sediment delivery to the streams.

Barriers to Illegal Travel

We know there are problems with illegally-pioneered trails in the Resource Area. We plan on using barriers and front-end road decommissioning to discourage use of these illegal trails. Many of the targeted trails were pioneered to breach road closures, which in turn were put in place for a variety of reasons, including wildlife habitat security, maintaining watershed health and to provide a diversity of recreational experiences. The illegal trails have resulted in resource damage by directly contributing sediment into Nilsen Creek along a section of road, indirectly facilitating sediment delivery to Stump, Nilsen, and Mokins Creeks from trails located on steep ground, and causing additional soil compaction and displacement that is detrimental to site productivity. The illegal trails decrease wildlife security and encroach on ridges, which serve as travel corridors for many animal species. In addition, the pioneered routes contribute to the spread of noxious weeds. Bringing to an end to use of the pioneered trails will protect water quality, enhance wildlife security, protect habitat, and allow for a range of recreational experiences.

Table 1. Summary of activities in the Deerfoot Resource Area under the Proposed-Action Alternative.

Vegetative Treatment		Acres
Prescribed Burning		1,257
Rehabilitation (Burn and Plant)		15
Timber Harvest		608
Regeneration harvest followed by burning and planting	*583*	
Mix regeneration/thinning harvest followed by burning and planting	*17*	
Thinning harvest followed by burning	*8*	
Yarding Method		
Helicopter (25%)		150
Skyline (57%)		347
Skyline Swing to Tractor Skid Road (5%)		33
Tractor (13%)		78
Roads		**Miles**
System Road Construction		0.6
Temporary Road Construction		0.6
Temporary Skid Road		0.4
Culverts		**Number**
Culvert Upgrade		1
Relief Culvert Installed		1
Barriers to Illegal Travel		**Number**
Debris barriers		12
Front-end road decommissioning sites		2
Ditch construction sites		1

2.2. Implementation Features Related to Resources

Activities were designed to accomplish project objectives without significantly impacting resources in the Deerfoot Resource Area. The following are specific guidelines that would be followed during implementation. Refer to Chapter 3 of the EA for additional discussion of these features.

Specific Features of the Selected Alternative Designed to Protect Forest Vegetation

Target stand descriptions and silvicultural diagnosis have been completed and approved by a certified silviculturist at the time of this analysis (PF Doc. VEG-3). All vegetative treatments would have silvicultural prescriptions approved by a certified silviculturist prior to treatment. Silvicultural prescriptions would consider site-specific factors such as the physical site, soils, climate, habitat type, current and future vegetative composition and conditions, as well as multiple resource objectives, NEPA decisions, other regulatory guidance, and Forest Plan goals, objectives and standards.

Temporary road associated with the helicopter landing for Units 23, 24 and 25 would go through about 525 feet (0.1 mile distance and less than one-third of an acre) of allocated old growth. Adjustment to the temporary road location would be made during implementation so as to minimize the removal of any trees that are 21 inches or greater in diameter at breast height.

Snag resources would be managed by following the "Regional Snag Management Protocol" (January 2000; PF Doc. VEG-R57), which provides the following guidelines for retention (PF Doc.VEG-22):

- *Moist forests: 6 to12 snags per acre with two to four snags per acre that are greater than 20 inches, as well as 12 live tree replacements per acre of the largest representative trees in half of Units 1, 4, and 25; and in all of Unit 3.*
- *Dry forests: 4 to 6 snags per acre (with four per acre that are over 20 inches in diameter) and 8 live tree replacements of the largest representative trees in all the remaining proposed commercial harvest units.*

Treatments would meet white pine retention guidelines (USDA, 1994; PF Doc. VEG-R58). Harvest unit layout would consider suitability limitations on a site-by-site basis on the ground. Harvest and site preparation treatments would consider the potential short- and long-term negative effects (including blowdown, fire mortality, etc) of proposed activities on adjacent trees and stands with site-specific prescription modifications, such as change in unit boundary or modification of prescribe burning prescriptions.

In areas treated with regeneration harvest; site preparation for regeneration and fuel abatement, and planting/regeneration would occur within five years of harvest completion. All regeneration areas would be regenerated with site-adapted species/seed source. To reduce shrub competition and fuels so that desired regeneration can be established, treatment areas would be prescribed burned (the preferred treatment), mechanically treated, or a combination of both.

Specific Features of the Selected Alternative Related to Fire and Fuels Management

Surface or understory fuels in harvest units would be treated through the use of prescribed burning. Because post-harvest fuel conditions cannot be completely predicted, assessments would be made by a fire/fuels specialist and a silviculturist after completion of harvest activities. A determination would then be made as to whether the burn could be implemented safely and effectively without further fuels treatment, or if some modification of the fuels using other methods is required to meet the objectives of the silvicultural prescription. These methods could include slash piling, leave tree protection, or slashing.

Specific Features of the Selected Alternative Designed to Protect Threatened, Endangered & Sensitive Plants

Known Sensitive plant occurrences in the Deerfoot Resource Area would be buffered from harvest and other project-related activities by a minimum of 100 feet (there are no known occurrences of Threatened or Endangered plants in the Deerfoot Resource Area). Prescribed fire ignition would not occur within riparian habitats, although fire would be allowed to back down into riparian areas. Higher fuel moistures in riparian habitats during prescribed burning conditions would likely limit the spread of any prescribed fire. To limit ground disturbance, fire line would be minimized in riparian areas, to those occasions when fire line is needed to contain the burn. However, fuelbreaks would be used in riparian areas such that the total amount of fire line may be minimized while still allowing safe and efficient implementation of prescribed burning. Should rare plants be located during implementation, one or more of the following protective measures would be implemented: 1) drop the proposed unit from activity; 2) modify the proposed unit or activity, 3) implement a 100-foot slope distance buffer, and/or 4) implement Timber Sale Contract provisions for Protection of Endangered Species, and Settlement for Environmental Cancellation.

Specific Features of the Selected Alternative Designed to Reduce the Spread of Noxious Weeds

Noxious weed prevention strategies on the Coeur d'Alene River Ranger District are conducted based on the Noxious Weeds Final Environmental Impact Statement and Record of Decision (USDA Forest Service, 2000; PF Doc. CR-028 and CR-029). Measures to protect Threatened, Endangered and Sensitive plant population viability and habitat capability during noxious weed treatment would be implemented following guidelines provided in that document. All roads used for implementation of harvest activities would be treated for noxious weeds, both prior to and after project completion. To help reduce the spread of noxious weeds and prevent the introduction of new invader species, a contract clause related to equipment washing would be used in all construction and timber sale contracts. For further information regarding noxious weeds, please refer to Appendix E (Issues Not Addressed in Detail).

Specific Features of the Selected Alternative Designed to Protect Aquatic Resources

Best Management Practices (BMPs) – All activities would be designed to protect water quality and aquatic resources through the use of BMPs, which are the primary mechanism to enable the achievement of water quality standards. Forest Service Handbook 2509.22 (Soil and Water Conservation Handbook) outlines BMPs that meet the intent of the water quality protection elements of the Idaho Forest Practices Act. Site-specific best management practices that have been specifically designed for the action alternatives and are part of the design criteria are described more fully in Appendix A. The estimated effectiveness of BMPs is considered moderate to high; depending on the practice. A description of each practice and an estimate of its effectiveness are located in Appendix A. Research has evaluated the effectiveness of BMPs (USDA Forest Service Monitoring Reports 1995 – 2000; PF Doc. CR-004 through CR-016). These practices would be implemented since they are requirements tied to the timber sale contract. The Forest Service Timber Sale Administrator would frequently review the project for compliance with these and other timber sale requirements. The District aquatics staff would also do periodic monitoring to assess the effectiveness of these practices.

Inland Native Fish Strategy (INFS) – In development of the proposed action, standards and guidelines of the INFS (pages A-6 through A-15; PF Doc. CR-003) were used specifically to protect water and aquatic biota within the Resource Area with application of streamside buffers. If Threatened or Endangered fish species are located during project implementation, protective measures would be implemented in compliance with the Inland Native Fish Strategy, including implementation of Timber Sale Contract provisions for Protection of Endangered Species, and Settlement for Environmental Cancellation.

Protection Of Wetlands, Seeps, Bogs, Wallows and Springs – All known or discovered wetlands, seeps, bogs, elk wallows and springs less than one acre in size would be protected from timber harvest or road construction with an appropriate buffer for the species as prescribed by the District Botanist and Wildlife Biologist.

Features of the Selected Alternative Designed to Protect Soils

To reduce the impacts to soils and soil productivity, the alternatives utilize Soil and Conservation Practices as described in the Soil and Water Conservation Practices (SWCP) Handbook (FSH 2509.22) (PF Doc. SOILS-R-72) and (Appendix A). This handbook and appendix outlines Best Management Practices (BMPs) that protect the soil resources at a higher level than do existing Idaho Forest Practices rules and regulations, thereby incorporating all Idaho state standards.

Fine organic matter and large woody debris would be retained on the ground for sustained nutrient recycling in harvest units, consistent with Graham et al (1994; PF Doc. SOIL-R21).

- *Downed woody retention levels would be maintained at the lowest levels due to concern for fire hazard in the wildland urban interface. For the moist forest habitat types where harvest is proposed in half of Units 1, 4, 25 and all of 3, Graham et al (1994) recommend retaining 17-33 tons of downed woody material greater than three inches in diameter. For the drier habitat types associated with the remaining harvest units, the recommended retention level is 7-15 tons (PF Doc. VEG-22).*
- *Slash left on the ground after harvest activities are complete and before fuel reduction activites start would be left to overwinter for nutrient recycling.*
- *The latest soil nutrient management recommendations from the Intermountain Forest Tree Nutrient Cooperative (IFTNC) and Rocky Mountain Research Station (RMRS) would be applied as appropriate to each activity area where organic material is removed. Slash would be left to recycle nutrients back into the soil until site-preparation occurs.*
- *Only log-length yarding would be allowed in harvest units to facilitate nutrient recycling (there would be no whole-tree yarding). The leading end of logs would be suspended during skyline yarding. Yarding across any designated RHCA would require full suspension.*

- *Yarding would meet IPNFs and Soil Nutrition guidelines.*
- *As this is a hazardous fuels reduction project within the wildland urban interface, determination of fire hazard where slash is left untreated for prolonged periods of time would be made by the District Fire Management Officer. Where fire hazard is considered high, especially along shared boundaries with private property or heavily-used roads, flexibility would be given to treat slash prior to it being left for several months.*
- *Prescribed burning and pile burning would occur only when the upper surface inch of mineral soil has a moisture content of 25 percent by weight, or when duff moisture exceeds 100 percent, or when other monitoring indicates soil productivity would be protected.*

In those units where tractor yarding would be used (Units 6, 11, 15, 23, and 28), the following specific guidelines would apply:

- *Ground-based yarding, processing, and harvester equipment would operate on slopes under 35 percent and utilize existing skid trails where possible.*
- *All new skid trails would be agreed upon and designated on the ground by the purchaser and the Forest Service before felling begins.*
- *Skid trails would be established at approximately 100-foot spacing on ground-skidded units to reduce overall soil compaction and displacement; skid trails would converge at landings.*
- *Post-harvest, all utilized skid trails would either be covered with slash and/or have logs randomly placed on the contour to reduce runoff; stabilized with waterbars; or a combination of both.*
- *Existing landings would be utilized where appropriate in order to maintain current soil compaction levels. Upon completion of activities, landings would be covered with some residual slash (within the guidelines provided by Graham et al. 1994 for coarse-woody debris by habitat type), and seeded.*
- *All scheduling of harvest activities in tractor units would occur when the soil profile is dry to reduce the effects from compaction (Poff, 1996, p. 482; PF Doc. SOIL-R-47).*
- *In Unit 11, which is a long slender unit with a previous entry in the adjacent area, an existing skid trail would be utilized and timber directionally felled toward the haul road to reduce or eliminate the majority of potential disturbance, keeping impacts well within the standards.*
- *During construction of temporary and skid roads in Units 23 and 28, five to seven inches of topsoil and organic material would be removed and stock-piled for later redistribution during road decompaction. Bulk density tests would be conducted prior to decompaction to determine how deep the compaction extends into the soil horizons. Decompaction would only occur to the depth of the compaction, in order to protect the unimpacted ash cap layer. Organic material and topsoil would then be placed over the decompacted surface in order to retain as much of the original soil physical properties as possible, and then seeded.*

Features of the Selected Alternative Designed to Protect Wildlife Habitat

Snags would be retained to meet the Northern Region Snag Management Protocol (PF Doc. VEG-20 and VEG-21). Healthy western white pine, ponderosa pine and western larch of all sizes would be favored to retain on the site unless removal is unavoidable due to safety reasons or special circumstances. All roads closed to the public that are opened, constructed or reconstructed for the project would be closed with a gate or barrier during project activities. All of these roads would be effectively closed following project activities. At the end of project activities, all closure devices would be replaced in as good as or better condition than currently exists. Temporary roads would be recontoured following harvest activities. Incidental trees charred during prescribed burning operations would be retained on site to provide black-backed woodpecker habitat unless removal is unavoidable.

If any Threatened or Endangered wildlife species are observed in the resource area during implementation, the district wildlife biologist would determine any project modifications necessary under the timber sale contract provisions to protect the species and its habitat based on applicable laws, regulations and management recommendations for the species. If any Threatened, Endangered or Sensitive species is found to be nesting in

an area scheduled for prescribed fire or silvicultural manipulation, activities would be delayed in the area as recommended by the wildlife biologist.

Features of the Selected Alternative Designed to Protect Heritage Resources

Surveys to locate cultural resources have been completed in the Deerfoot Resource Area; a single Class I (National Register-eligible) site was identified (Site Number 10-KA-243). The Forest Cultural Resource Specialist has made a preliminary determination that the proposed activities would have *No Adverse Effect* based on the following design features:

- *The Class I site would be protected from project activity by a buffer of at least one tree length. The Forest Service archaeologist would consult with project planners and accompany marking crews to ensure that a sufficient buffer is established.*
- *Damage to a ditch feature would be avoided by utilizing directional felling so that no trees are dropped on or across the feature. In addition, designated skid trails would be established in areas where the ditch no longer exists, so that it is not damaged.*
- *A low-intensity prescribed fire is proposed for the area; steps would be taken to eliminate fire from being introduced to the site and damaging any features or artifacts. Prescribed fire would not cause an adverse effect to the ditch feature because of its location; there are no artifacts in or on the ditch; and the feature itself is not sensitive to a low-intensity fire.*

2.3. Schedule of Activities Under the Selected Alternative

Depending upon factors such as the lumber market, timber harvest could begin as early as fall of 2008. Prescribed burning would likely not occur until spring of 2009. The completion of all activities in the Selected Alternative will likely span at least 5 years from the beginning of implementation.

2.4. Mitigation Measures

Analysis of proposed activities indicates potential effects that are well within applicable regulatory thresholds (for example, those identified by the Forest Plan, Endangered Species Act, Clean Water Act, etc.); therefore no mitigation measures were identified as necessary to reduce effects to natural resources or the human environment. Refer to the EA (Chapter 3) for more discussion of effects.

2.5. Implementation and Effects Monitoring

The Forest Plan documents a system to monitor and evaluate Forest activities related to timber, visual resources, recreation, cultural resources, wildlife, water/fish, Threatened and Endangered species, minerals, lands and environmental quality (Forest Plan, Chapter IV, pages IV-10 through IV-12; PF Doc. CR-002). For example, sale administrators and other contracting representatives would monitor all timber sales to ensure that activities are conducted in accordance with contract specifications (that activities occur where and when they should to protect resources such as soils and wildlife, that yarding is accomplished as planned and specified in the contract to protect soils, that seedlings are planted at the appropriate spacing, etc.). Reforestation success in regeneration areas would be monitored until the District silviculturist certifies that stocking requirements are met.

In addition, BMPs would be incorporated into many different phases of the project. The district hydrologist would review the design of all proposed roads and all road maintenance to assure compliance with BMPs. The engineering representative and the district hydrologist would monitor all new construction, reconstruction and temporary roads to ensure that they were built or restored to specifications. A sale administrator would visit each active cutting unit at a frequency necessary to assure compliance with the BMPs and the timber sale contract. Minor contract changes or contract modifications would be agreed upon and enacted, when necessary, to meet objectives and standards on the ground. Monitoring of BMPs has determined that recent projects on the IPNF have been implemented as designed and have achieved the desired objectives (IPNF Monitoring Reports for 2004 [pp. 37-44, 60; PF Doc. CR-026], 2003 [pp. 41-46, 76-77; PF Doc. CR-022], 2001 [pp.27-40; PF Doc. CR-017], and 2000 [pp. 34-41, PF Doc. CR-016]). Additional information on monitoring is provided in the EA.

3. Decision Rationale

My decision to implement the Selected Alternative is based on the three criteria identified in section 1.4, and in comparison to the No-Action Alternative as discussed below. The three criteria are:

- *the extent to which the alternatives address the purpose and need*
- *the effects of the alternatives on other resources*
- *consistency with the goals and findings of Forest policy and legal mandates*

Three other alternatives were considered but eliminated from detailed study, as described in the EA (Section 2.8).

3.1. Extent to which the Alternatives Meet the Purpose and Need

Of the alternatives considered in detail, the Selected Alternative best responds to the purpose and need identified for the Deerfoot Resource Area in compliance with goals of the Forest Plan, the National Fire Plan, and the Kootenai County WUI Fire Mitigation Plan, and direction provided by the USDA Forest Service Strategic Plan, National Fire Plan, Interior Columbia Basin Strategy, Coeur d'Alene Basin Geographic Assessment, Northern Regional Overview, and the Kootenai County Wildland Urban Interface Fire Mitigation Plan. The Selected Alternative would accomplish this without significantly impacting aquatics, wildlife, scenic, or other resources, as described below and in Section 3.2 and Section 4.

The purpose and need specifically focuses on dry sites in the Resource Area, but with the variability of the landscape, a small minority of treatments occur on moist sites. With this in mind, 86% of all treatments in the Selected Alternative occur on dry sites (EA page 3-15), and over 90% of commercial harvest treatments occur on dry sites (556 of 608 acres).

Purpose 1 of 3: Reduce hazardous fuels (surface, ladder and crown fuels) on dry sites

The No-Action Alternative would not reduce fuels in the wildland-urban interface of the Deerfoot Resource Area; allowing an increased risk of a more intense, faster spreading fire that could approach nearby developments and threaten lives, homes, infrastructure, and air quality. No-Action allows a greater possibility that severe wildfire would threaten environmental values such as forest cover, wildlife habitat, soil productivity, water quality, and visual quality. The No Action Alternative does not address or respond to the purpose and need to reduce fuels in any way. It allows the existing condition of elevated fuel loadings and increased connectivity of high fuel loadings to persist. No Action will also result in an increased potential for running crown fires and an increased likelihood of severe fire behavior with respect to flame length, rate of spread and fireline intensity. The current landscape homogeneity causes increased contagion or spatial aggregation of vulnerability to severe fire and insect and disease disturbances (Hessburg et al. 2005, PF Doc. FF-37).

Conversely, activities under the Selected Alternative would reduce fuels on over 50% of the dry sites on National Forest System lands within the Resource Area (1617 acres of treatment out of a total of about 3113 dry site acres on NFS lands within the Resource Area). This surface fuel reduction decreases the associated flame lengths of a potential wildfire. With the harvest activities and subsequent underburning, surface flame lengths are reduced for over 100 years over No Action. Although flame lengths vary widely among the stands in the resource area, without management action, they all exhibit the same trend - increasing flame lengths over time as surface fuels build. Prescribed burning, regeneration harvest or thinning harvest all immediately reduce ladder fuels and the probability of torching in treated stands. All treatments in the Selected Alternative reduce ladder fuels for nearly 30 years over No Action. A major direct effect of regeneration harvests in the Selected Alternative is the almost complete reduction in crown fuels in the treated stands. This reduction results in a disruption in the continuity of crown fuels. Because regeneration harvests remove almost all crown fuels, they act as a barrier to crown fire spread. Any crown fire that encounters a regeneration harvest will be forced to the ground because of the lack of crown fuels.

The unmerchantable branches and other fuels that are left after harvest can substantially increase the fuel load, and consequently the potential flame lengths on any given site. This fuel load would then pose a slash fire hazard for a short period of time (one to three years), until the fuel on the site is treated with prescribed burning.

Under the Selected Alternative, a fire progressing across the Resource Area would be influenced by many of the treatments, resulting in altered spread patterns and a slower spread rate. Maintaining natural openings with prescribed fire and regenerating some stands in the Resource Area would create a mosaic of vegetation which would create fuel interruptions that reduce the potential for conflagrations or serious fast spreading fires. Fuel mosaics can result in delayed fire spread or fire build-up, reducing the risk of escaped fires. The treatments in the

Selected Alternative would result in potentially slower-moving fires, which would allow more effective fire suppression, fewer acres burned, reduced threats to human life and property, community infrastructure, air quality, water quality, and forest cover.

Purpose 2 of 3: Improve and maintain proportions of resilient species such as ponderosa pine and western larch on dry sites

Under the No-Action Alternative, dry site stands would continue to deteriorate due to root disease, decay and insects. Stands would be dominated by Douglas-fir because of a lack of seed source and appropriate growing space for other species. Landscapes would become more homogenous, multi-storied and multi aged. This is not a resilient condition.

The Selected Alternative will increase western larch/ponderosa pine/white pine cover types in the Resource Area by 36% (from 11% to 15% of the Resource Area). Regeneration and commercial thinning treatments have been designed to trend stands and landscapes toward more resilient compositions and structures in the face of future drought, fire or wind events. This would result in a trend toward the desired condition, which represents more healthy and resilient vegetative conditions.

Purpose 3 of 3: Improve and maintain dry site structure at both the stand and landscape scales by promoting

1) **stands with a significant component of large, old, resilient trees; and**
2) **a distribution of structural stages across the landscape that is sustainable and will provide a range of habitats**

Under the No-Action Alternative, shade-tolerant, root disease susceptible species eventually dominate and never form a closed canopy due to continual mortality from insects and disease. The mortality results in very high surface fuel levels and ladder fuels are always present due to the constant regeneration. Uncontrolled fires would likely be very severe causing high levels of mortality and loss of forest cover.

Under the Selected Alternative, all treatments are designed to maintain and enhance current large, resilient trees. The prescribed underburn only and commercial thinning treatments focus on the mature/large structure stands and are not expected to change cover type, structural stage or old growth allocation (if allocated). The regeneration harvest treatments focus on medium structure stands and treatments will retain the already present resilient species over the long term.

All harvest and non-harvest treatments are designed to have fuel reductions with prescribed burning. Prescribed burning has both stand-level and landscape effects. At the stand scale, prescribed burning has been shown to reduce subsequent tree mortality, crown scorch and exposed and blackened soil. At the landscape scale discontinuities in surface, ladder and crown fuels interrupt fire spread. Finney's (2005) research suggests that fire growth and severity of a large wildfire under extreme weather conditions were mitigated by fuel treatments that included prescribed burning. Most treatments under the Selected Alternative span several stands and therefore may be large enough on the landscape to affect a large fire.

The landscape arrangement of structural stages is displayed with patch sizes. The desired condition represents a more resilient condition than current. This desired condition integrates a combination of resource issues including providing wildlife habitat. The selected alternative improves one structural stage while keeping those already within the desired range in that range.

3.2. Effects of the Alternatives on Other Resources

Since the No-Action Alternative does not propose any management activities in the Deerfoot Resource Area, there would be no direct effects to resources in the area. However, changes are constantly occurring over time. The long-term effects of not responding to current conditions in the area will likely mean greater adverse effects with the occurrence of natural events, such as a major wildfire.

Activities under the Selected Alternative will not pose any significant short- or long-term impacts, and the treated areas would be better able to handle major events in the future, which helped in my decision to select the Proposed Action for implementation.

The purpose and need discussed earlier addresses the effects on forest vegetative and fire/fuel conditions; the following compares the effects of the alternatives on other resources.

Effects to TES Plants

There would be no effect to Threatened plant species under either alternative. A complete analysis of Threatened plants is included in the Biological Assessment (PF Doc. TES-39). There are no Endangered plants listed by the U.S. Fish and Wildlife Service for the Idaho Panhandle National Forests. While some Sensitive plant individuals that were not detected during field surveys may be impacted by implementation of projects on National Forest System lands, cumulatively, these effects constitute a very low level of impacts to Sensitive plant populations or suitable habitat. Refer to the Project Files for TES Plants for supporting information.

Effects to Aquatics

Under the No-Action Alternative, there would be no direct or indirect effects associated with this project. Sediment yield values and trends as discussed in the affected environment would not change from existing conditions and predicted trends. Water yield values would continue to decrease very slowly by an average of 1 percent every 5 to 10 years as vegetation recovers from past harvest (Table 3-AQ-7). Sediment yield values would stay the same percent above natural as infrastructure (i.e. roads) on the landscape would be retained (Table 3-AQ-8).

Under the No-Action Alternative, the identified culvert upgrade and the relief culvert installation to improve road-stream crossing potential risk would not be implemented, leaving the associated risk of sediment delivery. The failure of the road-stream crossings may occur under several environmental conditions (e.g. natural cyclic flood, lack of maintenance, or stand replacing fire). If a pipe becomes plugged than a flash flood and/or debris flow is triggered, culvert failures occur when debris plugs the culverts or when the capacity of the culvert is exceeded. Water then is either concentrated over the top of road fills or is diverted down the road or ditch and onto hillslopes unaccustomed to concentrated overland flow.

With either of these scenarios, the additional sediment pulse could result in adverse effects to fish populations and/or fish habitat. If either of these events were to occur while salmonid eggs or alevins were still in the gravels, they could potentially be entombed by the additional sediment and suffocate.

Under the Selected Alternative, any increases in peak flow would not be measurable in the Deerfoot Resource Area subwatersheds (Table 3-AQ-7) and would not change existing fisheries habitat conditions in any of the fish-bearing stream segments. Since any change in water yield associated with this project probably would not be differentiated from normal climatic fluctuations in the Deerfoot Resource area subwatersheds, any additional bedload scour during high flows would not be expected. The only watershed where modeling predicted a five percent or greater increase in peak flow was Stump Creek; with an eight percent increase, there would be a slight potential of a measurable increase in peak flow or delay of watershed recovery. Salmonid redds, aquatic life, and their associated habitat existing in the cumulative effects area would not be directly or indirectly affected by the 0% to 3% modeled increases in peak flow.

Under the Selected Alternative, there would be only a slight difference in sediment yield increases from the No Action Alternative. The risk of measurable sediment under the Selected Action would be very low for both the larger watershed scale and the smaller sub-watershed scale. If sediment increases were to occur, it would be localized only near treatment units and landing locations on or near Road 206. This relatively low level of treatment at the sub-watershed scale, application of BMP's, and location of treatments far away from streams as buffered (INFS 1995) would prevent sediment from being routed down slope to stream channels or into the Hayden Creek or Hayden Lake. Sediment yield increases under the Selected Alternative would not be great enough to cause measurable effects to water quality or impair beneficial uses. In the short term, reconstruction of roads may generate some measurable sediment dependent on flow levels and high precipitation during the activity. In the long term the proposed activities would have no measurable effects to water yield, sediment yield, and overall aquatic health.

Based on the stream channel types and landtype characteristics of Stump, Nilsen, Mokins, Yellowbanks, Jim, and Hayden Face Creeks, the estimated changes in peak flows, sediment yields and the potential increases in flows from a rain-on-snow event, the Selected Alternative would not cause a measurable affect to stream channel morphology and therefore would not change fish habitat. *For more information, please refer to the EA (Section 3.4).*

Effects to Soils

Under the No-Action Alternative, no direct effects to the soil resource would occur, since there would be no road construction, logging, or fuel treatment activities. There would be no compaction or displacement beyond what currently exists. Throughout the silvicultural landscape, tree mortality from pathogens, insects and weather events would continue as in the past, which has a direct influence on the area's recycling of organic matter and changes in fuel loading.

Stands currently at high risk for insect or disease mortality would not be treated, which may increase the risk of stand loss due to wildfire, severe burning, and loss of soil nutrients. Moreover, the introduction of weeds and unwanted flora following a fire could lead to higher competition between less desirable and native vegetation. In the absence of such a hot fire, nutrients would be retained on site. However, stand conversion back to more site-appropriate tree species would be delayed in comparison to the Selected Alternative.

Under the Selected Alternative, the EA documents beneficial effects of implementing activities that would reduce the potential of severe wildfire effect on soils, because there would be a reduction in the amount of fuels on treated sites (EA page 3-120). Soil-disturbing activities would occur but would not exceed Regional or Forest Plan standards (EA page 3-128). *For additional information, refer to the EA (Section 3.5).*

Effects to Wildlife

The wildlife analysis considered effects to 14 species, including, gray wolf, bald eagle, Coeur d'Alene salamander, boreal toad, black-backed woodpecker, pygmy nuthatch, flammulated owl, fisher, fringed myotis, wolverine, northern goshawk, pileated woodpecker, pine marten, Rocky Mountain elk (EA, Section 3.6). In addition, effects to nongame and neotropical birds were considered (EA page 3-141). The Forest Service has developed a conservation assessment of the northern goshawk, black-backed woodpecker, flammulated owl and pileated woodpecker in the Northern Region (Samson, 2005; PF Doc. WL-R139). The conservation assessment shows that short-term viability (less than 100 years) is not an issue in Region 1 for these species. Because habitats are trending away from historic range, long-term viability (more than 100 years) is low.

Under the No-Action Alternative, there would be no direct or indirect effects to these species because no activities are proposed. Flammulated owl and pygmy nuthatch habitat would trend away from suitable conditions in the long term. Quality late-successional habitat for fisher may not be maintained over the long term.

Under the Selected Alternative, effects to species vary - habitat conditions that favor one species may be detrimental to another. However, specific design features of the Selected Alternative would minimize the impacts to any given species in the Deerfoot Resource Area (EA page 2-14, EA Section 3.6), and there will be no loss of viability to populations or species. There would be no effect to the gray wolf, which has been removed from the endangered species list since the publication of the EA. The gray wolf is now listed as a sensitive species on the IPNF.

Burning would be implemented to help maintain open stands of ponderosa pine (flammulated owl and pygmy nuthatch habitat) over time. Outside of suitable habitat, some of the additional 612 acres of prescribed fire would benefit flammulated owl and pygmy nuthatch habitat by increasing snag availability and by increasing or maintaining the open understory found in preferred habitat. The Selected Alternative may impact individuals, but would not likely contribute to a trend towards federal listing or cause a loss of viability to the population or the species for flammulated owl, pygmy nuthatch, black-backed woodpecker, boreal toad, fringed myotis, pileated woodpecker, and northern goshawk. The Selected Alternative would have no impact on individual bald eagles, Coeur d'Alene salamanders, wolverines, pine martens or their habitat. The Selected Alternative would impact individual fishers, but would not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species. Elk habitat potential would drop 1% in Compartment 308 during project activities (EA page 3-185), but would return to pre-existing conditions after closures are completed. *For additional information, refer to the EA (Section 3.6).*

Effects to Recreation

Under the No-Action Alternative, no immediate changes to recreation in the Deerfoot Resource Area would occur. The public would continue to use roads and trails in the area for recreation as well as the developed campground in Mokins Bay. Unregulated (illegal access) would also continue. A large fire in the area might have short-term effects on trail access and maintenance due to falling timber, with possible erosion of bared soil. The primary long-term effect would be on the scenic qualities of trails.

Under the Selected Alternative, placing effective barriers to illegal off highway vehicles would influence people to use roads and trails designated for such uses. In the vicinity of the Deerfoot area there is an ATV trail, (Trail 28)

that could satisfy the desire of people to use all terrain vehicles on National Forest lands. Forest Roads 206 and 1535 within the area are open to such uses in either alternative.

With either alternative there would be no net loss of recreation trail or road miles as there are no approved routes within the area. No other reasonably foreseeable activities would have an influence on recreation in the Resource Area. *For additional information, refer to the EA (Section 3.8, Recreation).*

Effects to Scenery

Under the No-Action Alternative, there would be no short-term effects to the scenic condition of the area. Old harvest units would continue recover tree growth, slowly muting the visual effects of tree lines and unnaturally shaped openings. Small changes such as insect and disease outbreaks would be barely noticeable from the key viewing points. Such changes occur over time and are usually not usually noticed.

Long term, the increasing vulnerability to wildfire of the area may bring change to the scenic conditions. A major (large) wildfire could have drastic effects on the scenery in the Deerfoot Resource Area.

Under the Selected Alternative, the collective scenic effects of the past activities and treatments included in the Selected Alternative are negligible and will meet the Forest Plan standards established for this area. All of the Deerfoot Resource Area would fall into the modification Visual Quality Objective as all activities fall into the scenic background. Many of the management features in the Selected Alternative have short-term visual effects. Prescribed burning to reduce fuel build-up is an example of management action that rarely has a long term effect on scenic resources. *For additional information, refer to the EA (Section 3.7, Scenery).*

3.3. Consistency of the Alternatives with the Goals and Findings of Forest Policy and Other Legal Mandates

All management activities under the Selected Alternative are in full compliance with the Forest Plan, National Fire Plan, and other Forest Service policies and legal mandates. Because the No-Action Alternative would not do anything to reduce potential fire intensity or to address forest pest problems, it would not meet all of the Forest Plan goals, objectives, and standards or with the objective of the National Fire Plan, but would be consistent with other legal mandates.

National Environmental Policy Act: The analysis for the Deerfoot Resource Area project followed the guidelines of NEPA as provided by the Council on Environmental Quality (CEQ). Alternatives were developed based on existing conditions, Forest Plan goals and objectives, and public concerns and recommendations. A total of two alternatives were considered in detail (EA, p.2-8, "Alternative Descriptions"), including a no-action alternative as required by NEPA. During alternative development, an additional three alternatives were briefly considered but eliminated from further study (EA, page 2-16). The range of alternatives is appropriate given the scope of the proposal and the purpose and need for action (EA, pages 1-2 through 1-7).

National Forest Management Act requirements related to vegetative manipulation and aquatic resource protection: Technology and knowledge exists to ensure that lands are adequately restocked within five years after final harvest. Effects on residual trees and adjacent stands have been considered (EA, p. 3-33). Harvest will not occur on sites identified as not suitable for timber production. The Forest Plan (under Appendix M) indicates that on-site inspection may be used to revise timberland suitability. The Deerfoot Resource Area project analysis included a detailed stand-by-stand review in the area of proposed treatment units using data, field reconnaissance, photo interpretation, and professional experience (PF Doc VEG-17 and VEG-18).

All treatments that will occur under the Selected Alternative are silviculturally appropriate and are within the timber and vegetation management practices outlined in the Forest Plan (EA, p. 3-29 through 3-31). Implementation of features of the Selected Alternative designed to protect aquatic resources (EA p. 2-12) will meet the riparian management objectives of maintaining slope stability in potentially sensitive areas, and providing a long-term supply of large woody debris (EA page 2-11, 13). These features surpass those required by the Idaho Forest Practices Act and are consistent with Forest Plan standards. Potential physical, biological, aesthetic, cultural, engineering, and economic impacts of the Selected Alternative have been assessed and are disclosed in the Environmental Assessment (Chapter 3) with supporting information in the Project Files.

A request to exceed the 40 acre size limitation on specified regeneration harvests has been approved in accordance with FSM 2470.1 as described by Section 6 of the National Forest Management Act, which requires that harvests designed to regenerate an even-aged stand of timber are subject to established maximum size limits (16 USC 1604 (g) (3) (F) (iv) and 36 CFR 219.27 (d) (2).

Clean Water Act: The EA evaluated potential adverse impacts to water resource and project compliance with the Clean Water Act, and determined that the Selected Alternative is consistent with the Clean Water Act (EA, Page 3-

106). Sediment and nutrients, the pollutants of concern, would not increase in the water quality limited lake segment in the Hayden Lake basin. Risks to beneficial uses in Stump, Nilsen, Mokins, Yellowbanks, Jim, and Hayden Face Creeks would not be changed by this project. In compliance with the current TMDL status, there would be no net increase in sediment through management activities into Hayden Lake.

Clean Air Act: The Idaho Panhandle National Forests is a member of the Montana/Idaho Airshed Group, which is composed of members who conduct a "major" amount of prescribed burning and the regulatory and health agencies that regulate this burning. The intent of the Airshed Group is to minimize or prevent smoke impacts while using fire to accomplish land management objectives and/or fuel hazard reduction (PF Doc. FF-42). The monitoring unit of the Montana/Idaho Airshed Group coordinates burning and smoke emissions to minimize smoke accumulation and provides smoke dispersion forecasts and air quality monitoring support for burners in the Airshed Group. These procedures limit smoke accumulations to legal, acceptable limits. The District strictly complies with these procedures, and has had no air quality violations.

National Historic Preservation Act: Both alternatives are consistent with the National Historic Preservation Act. Surveys to locate heritage resources within the Deerfoot Resource Area have been completed (EA, p. 2-14). All known heritage resource sites will be protected as directed by the Forest Plan (PF Doc. HR-1). Any future discovery of heritage resource sites or caves will be inventoried and protected if found to be of cultural significance; a decision would then be made to avoid, protect or mitigate effects to these sites in accordance with the National Historic Preservation Act (EA, p. 2--14).

Migratory Bird Treaty Act: The No-Action Alternative does not include any activities that would directly affect migratory birds. Under the Selected Alternative, the habitat needs of neotropical migrants were addressed through the analyses for other species which depend upon old forest structure and snags (goshawk, pileated woodpecker, marten, and black-backed woodpecker) (EA, p. 3-188-189). Efforts to trend stands in the resource area toward historic species composition and diversity in age structure and to maintain the ecological processes that created these conditions would eventually benefit nongame and land bird species.

Environmental Justice Executive Order: Executive Order 12898, issued in 1994, ordered federal agencies to identify and address the issue of environmental justice; i.e. adverse human health and environmental effects that disproportionately impact minority and low-income populations. The No-Action Alternative does not include any activities that would affect minority or low-income populations. Based on the composition of the affected communities and the cultural and economic factors, the Selected Alternative will have no adverse effects to human health and safety or environmental effects to minority, low-income, or any other segments of the population.

Recreational Fishing Act: Executive Order 12962 (June 7, 1995) identifies objectives to improve the quantity, function, sustainable productivity, and distribution of federal actions on aquatic systems and recreational fisheries, and document those effects. The No-Action Alternative does not include any activities that would directly affect recreational fishing. The documentation provided in the Environmental Assessment meets the requirements of the Recreational Fishing Act. Information on the effects to aquatic resources shows that the Selected Alternative would have no measurable effect to the beneficial uses (EA, Section 3.4.4). Though individual westslope cutthroat trout may be affected, the project would not lead toward a trend in federal listing.

National Fire Plan: In 2000, over 92,000 wildland fires burned more than 7.5 million acres of grass, brush and forested lands across the United States. In response, the Secretaries of the Departments of Agriculture and the Interior developed an interagency approach to respond to severe wildland fires, reduce their impacts on rural communities, and assure sufficient firefighting capacity in the future. The "National Fire Plan" identifies five key program areas designed to respond to the severe wildfires of 2000, to reduce their impacts on rural communities, and to enhance firefighting capabilities in the future. Because the No-Action Alternative would not take any action toward reducing fire danger, the No-Action Alternative would not be consistent with the goals of the National Fire Plan. In contrast, timber harvest and prescribed burning activities under the Selected Alternative is consistent with and meets direction provided in the National Fire Plan.

Interior Columbia Basin Strategy: The Interior Columbia Basin Ecosystem Management Project found current broad-scale forest health conditions increase the susceptibility of forests to uncharacteristic wildfires and large scale insect and disease events, and have impacted wildlife habitat. The changes are represented by decreases in ponderosa pine, western larch, and white pine along with increases in Douglas-fir and grand fir, white fir; decreases in large trees component (live and dead) and increase in mid seral structures; and increased fragmentation and decreased connectivity. The Interior Columbia Basin Strategy says that an integrated mix of restoration activities should provide for re-patterning succession and disturbance regimes and achievement of sustainable landscape conditions, thereby contributing to a reduction of events such as uncharacteristically large

and severe wildland fires. The Selected Alternative directly responds to the Interior Columbia Basin Strategy by reducing hazardous fuels, improving species composition, and improving stand and landscape structure.

Northern Region Overview: Findings of the Northern Region Overview assessment conclude that there are multiple areas of concern in the Northwest Zone of the Region, but that "this subregion holds the greatest opportunity for vegetation treatments and restoration with timber sales. From a social and economic standpoint, using timber harvest for ecological restoration would be a benefit to the many communities which still have a strong economic dependency, more so than in other zones in the Region. Aquatic restoration should be focused on specific needs based on the zone aquatic restoration strategy." The timber management (timber harvest) tool best fits with the forest types in northern Idaho and is essential, for example, to achieve the openings needed to restore white pine and larch, and maintain upland grass/shrub communities. The No-Action Alternative does not propose any activities that would help address these areas of concern. The activities that will occur under the Selected Alternative are consistent with the findings and recommendations of the Northern Region Assessment.

Forest Plan goals and objectives: General management direction for the Idaho Panhandle National Forests is found in the Forest Plan, which provides Forest-wide goals and objectives (Forest Plan, Chapter II). The standards and guidelines for the Forest Plan (Forest Plan, Chapter II) apply throughout the Resource Area. I have evaluated features of the alternatives against Forest Plan goals and objectives, as well as the resource standards for consistency with the Forest Plan. Because the No-Action Alternative does not include any treatment activities, the continued succession of fuels and fire behavior characteristics and the perpetuation of forest pest problems would in time be inconsistent with the goals, objectives and standards established in the Forest Plan (EA, page 3-63). All management activities included in the Selected Alternative are in full compliance with and generally exceed Forest Plan goals, objectives and standards, including the Inland Native Fish Strategy amendment to the Forest Plan. For additional discussion of consistency with the Forest Plan, please refer to the discussions under each resource of concern in Chapter 3 of the EA.

Coeur d'Alene River Basin Geographic Assessment: The GA describes the Deerfoot Resource Area as having high road densities and undesirable terrestrial conditions, such as high-graded stands of medium sized trees of poor quality. Such landscapes are the highest priority for vegetative restoration. The Geographic Assessment further classifies the Hayden Lake Basin as functioning but at risk and directs that these areas will be among the highest priority for watershed and aquatic restoration. On these landscapes, the Geographic Assessment recommends that we thin from below and use shelterwood harvests with reserve trees and group selection harvests to sustain or restore open stand structures dominated by large fire-resistant early seral tree species (ponderosa pine and western larch). The Selected Alternative is consistent with recommendations of the Geographic Assessment because it uses prescribed fire, regeneration and thinning treatments which are designed to sustain and/or restore open stand structures dominated by large, fire-resistant early seral tree species such as ponderosa pine western larch. Design features will provide for wildlife security over the long term.

4. Finding Of No Significant Impact (FONSI)

I have reviewed the direct, indirect and cumulative effects of the project activities as documented in this Decision Notice, the Environmental Assessment (Chapter 3 and Appendices), and the Project File. The setting of this proposal is in a localized area, with implications only for the landscape, drainages and stands in the analysis area. My consideration of the proposed action is based on its impact on the ecosystem, local communities, county, and the affected resource level. It does not have any large or lasting effect on society as a whole, the nation, or the state.

I find that there are no significant beneficial or adverse impacts on the physical, biological, or social portions of the human environment, and therefore an environmental impact statement was not prepared. The Selected Alternative is consistent with the management direction, standards, and guidelines outlined in the Forest Plan for the Idaho Panhandle National Forests

Significant impacts (both beneficial and adverse): Effects associated with the Selected Alternative are discussed in Chapters 2 and 3 of the Environmental Assessment. There will be no significant impacts to any resource under the Selected Alternative (EA, Chapter 3; and Project Files). The impacts are within the range of those identified in the Forest Plan. Project activities are limited to the specific vegetation and fuel treatments proposed on lands managed by the USDA Forest Service in the Deerfoot Resource Area, although some analyses (such as aquatics and wildlife) considered the extent of effects beyond the project boundaries. While substantially reducing fuels, improving species composition, and improving stand and landscape structure, the Selected Alternative would not pose any significant short- or long-term effects. Design features included in this proposal would limit adverse effects to such an extent that any adverse impacts are almost undetectable and immeasurable, even at the local level (discussed in EA Chapter 3).

Fire/Fuels

The EA documents beneficial effects of implementing activities under the Selected Alternative which would reduce surface, ladder and crown fuels on dry sites within the Deerfoot Resource Area. Activities under the Selected Alternative would reduce fuels on over 50% of the dry sites on National Forest System lands within the Resource Area. This surface fuel reduction decreases the associated flame lengths of a potential wildfire. With the harvest activities and subsequent underburning, surface flame lengths are reduced for over 100 years over No Action. Prescribed burning, regeneration harvest or thinning harvest all immediately reduce ladder fuels and the probability of torching in treated stands. All treatments in the Selected Alternative reduce ladder fuels for nearly 30 years over No Action. Because regeneration harvests remove almost all crown fuels, they act as a barrier to crown fire spread. Beneficial effects occur up to the Resource Area Scale – this project would not significantly affect fuels at the larger Coeur d'Alene Basin scale. For these reasons, there would be no significant beneficial, adverse or cumulative effects to the fire/fuels situation under the Selected Alternative. *For more information, please refer to the EA (Section 3.3).*

Forest Vegetation

The EA documents beneficial effects of implementing activities that would improve species composition, and stand and landscape structure on dry sites. Changes to forest composition and forest structure, though trending in the right direction, would only increase the long-lived seral composition from 11% to 15%, and favorably change stand structure up to 11% at the resource area scale. While this change is advantageous for the Deerfoot Resource Area, the change is such a small percentage of the Coeur d'Alene River Basin that no change would be reflected at the overall basin scale. For these reasons, there would be no significant beneficial, adverse or cumulative effects to forest vegetation under either alternative. *For more information, please refer to the EA (Section 3.2).*

TES Plants

There would be no effect to Threatened plant species under the Selected Alternative. There are no Endangered plants listed by the U.S. Fish and Wildlife Service for the Idaho Panhandle National Forests. While some Sensitive plant individuals that were not detected during field surveys may be impacted by implementation of projects on National Forest System lands, cumulatively, these effects constitute a very low level of impacts to Sensitive plant populations or suitable habitat. There would be no significant beneficial, adverse or cumulative effects to TES Plants under either alternative. *For more information, please refer to the Project Files for TES Plants.*

Aquatic Resources Under the Selected Alternative, any increases in peak flow would not be measurable in the Deerfoot Resource Area subwatersheds and would not change existing fisheries habitat conditions in any of the fish-bearing stream segments. The risk of measurable sediment under the Selected Action would be very low for both the larger watershed scale and the smaller sub-watershed scale. Sediment yield increases under the Selected Alternative would not be great enough to cause measurable effects to water quality or impair beneficial uses. In the long term the proposed activities would have no measurable effects to water yield, sediment yield, and overall aquatic health. Selected Alternative would not cause a measurable affect to stream channel morphology and therefore would not change fish habitat. For these reasons, there would be no significant beneficial, adverse or cumulative effects to aquatic resources under either alternative. *For more information, please refer to the EA (Section 3.4).*

Soils The EA documents beneficial effects of implementing activities that would reduce the potential of severe wildfire effect on soils, because there would be a reduction in the amount of fuels on treated sites (EA page 3-120). Soil-disturbing activities would not exceed Regional or Forest Plan standards (EA page 3-128). For these reasons, there would be no significant beneficial, adverse or cumulative effects to the soils resource. *For additional information, refer to the EA (Section 3.5).*

Wildlife The wildlife analysis considered effects to 14 species, including, gray wolf, bald eagle, Coeur d'Alene salamander, boreal toad, black-backed woodpecker, pygmy nuthatch, flammulated owl, fisher, fringed myotis, wolverine, northern goshawk, pileated woodpecker, pine marten, Rocky Mountain elk (EA, Section 3.6). In addition, effects to nongame and neotropical birds were considered (EA page 3-141). Effects to species vary - habitat conditions that favor one species may be detrimental to another. However, specific design features of the Selected Alternative would minimize the impacts to any given species in the Deerfoot Resource Area (EA page 2-14, Section 3.6, Wildlife), and there will be no loss of viability to populations or species. For these reasons, there would be no significant beneficial, adverse or cumulative effects to wildlife. *For additional information, refer to the EA (Section 3.6).*

Recreation The Selected Alternative would place effective barriers to illegal off highway vehicles which would influence people to use roads and trails designated for such uses. There would be no net loss of recreation trail or road miles as there are no approved routes within the area. No other reasonably foreseeable activities would have an influence on recreation in the Resource Area.. For these reasons, there would be no significant beneficial, adverse or cumulative effects to recreation. *For additional information, refer to the EA (Section 3.8, Recreation).*

Scenery The collective scenic effects of the past activities and treatments included in the Selected Alternative are negligible and will meet the Forest Plan standards established for this area. All of the Deerfoot Resource Area would fall into the modification Visual Quality Objective as all activities fall into the scenic background. Many of the management features in the Selected Alternative have short-term visual effects, but long-term effects are limited. For these reasons, there would be no significant beneficial, adverse or cumulative effects to scenery. *For additional information, refer to the EA (Section 3.7, Scenery).*

The degree of effects on public health or safety. In the event of a wildfire, the treatments would allow more effective fire suppression, resulting in fewer acres burned, reduced threats to human life and property, community infrastructure, air quality, water quality, and forest cover. The risk of smoke intrusion into Class I airsheds or non-attainment areas from prescribed burning in the Resource Area would be minimal due to distance and prevailing winds (PF Doc. FF-42). All burning complies with federal, state and local regulations (EA page E-3). Management practices include but are not limited to burning under spring-like conditions (high fuel, soil, and duff moistures) to reduce emissions and provide for retention of large woody debris. Prescribed burning during spring or fall will generate less smoke than would occur during a much hotter stand-replacing summertime wildfire (PF Doc FF-42). For these reasons, there would be no significant effects on public health and safety.

Unique characteristics of the geographic area, such as proximity to historic or cultural resources, park lands, prime farms, wet lands, wild and scenic rivers, or ecologically critical areas: The Selected Alternative will have

no significant effect on unique resource characteristics. Surveys to locate heritage resources within the Deerfoot Resource Area have been completed. All known heritage resource sites will be protected as directed by the Cultural Resources Management Practices (Forest Plan, Appendix FF). Any future discovery of heritage resource sites or caves would be inventoried and protected if found to be of cultural significance. A decision would be made to avoid, protect, or mitigate effects to these sites in accordance with the National Historic Preservation Act of 1966 (page EA-20).

The degree to which the effects on the quality of the human environment are likely to be highly controversial: As used in the Council on Environmental Quality's guidelines for implementing NEPA, the term "controversial" refers to whether substantial dispute exists as to the size, nature or effect of the major federal action rather than to the existence of opposition to a use (Perry, 1991; PF Doc. DN-4). Past monitoring has determined that actual effects of similar projects are consistent with estimated effects of the proposed activities. There is wide professional and scientific agreement on the scope and effects of these actions on the various resources, as cited in the discussion of effects to resources (EA, Chapter 3). Based on the findings of the analyses, the effects of the activities in the Deerfoot Resource Area on the quality of the human environment are not highly controversial.

The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risk: The planned actions are similar to actions implemented without significant impacts on the Coeur d'Alene River Ranger District and other districts of the Idaho Panhandle National Forests. Documentation of past successes with similar projects can be found in the IPNFs' annual monitoring reports (PF Doc. CR-004 through CR-018, CR-022). The analysis considered the effects of past actions as a frame of reference in conjunction with scientifically accepted analytical techniques, available information, and best professional judgment to estimate effects of the proposal on Fire/Fuels (EA p. 3-37 through 3-68); Forest Vegetation (EA p. 3-1 through 3-36); Aquatic Resources (EA p. 3-69 through 3-108); Soils (EA p. 3-109 through 3-133); Wildlife (EA p. 3-134 through 3-196); Recreation (EA p. 3-197 through 3-199); Scenic Resources (EA p. 3-199 through 3-200); and Finances (EA p. 3-201 through 3-203). Design features will minimize the potential impacts. It is my conclusion that there are no unique or unusual characteristics of the area which have not been previously encountered that would constitute an unknown risk upon the human environment.

The degree to which the action may establish a precedent for future actions with significant effects or presents a decision in principle about future consideration: The Selected Alternative is not setting a precedent for future actions with significant effects. Management practices are consistent with the Forest Plan and with the capabilities of the land as documented in the EA, Chapter 3 discussions for Fire/Fuels (EA p. 3-63); Forest Vegetation (EA p. 3-25 through 3-32); Aquatic Resources (EA p. 3-103 through 3-106); Soils (EA p. 3-129); Wildlife (EA p. 3-189 through 3-192); Recreation (EA p. 3-200); Scenic Resources (EA p. 3-199); and Finances (EA p. 3-203). This action does not represent a decision in principle about a future consideration.

Whether the action is related to other actions with individual insignificant but cumulative significant impacts: The combined effects of past, other present, and reasonably foreseeable actions are discussed in the Environmental Assessment; there is no indication of significant adverse cumulative effects to the environment (EA, Chapters 2 and 3) with the activities identified in the Selected Alternative.

The degree to which the action may adversely affect districts, sites, highway structures, or objects listed in or eligible for listing in the National Register of Historic Places, or may cause loss or destruction of significant scientific, cultural, or historic resources: Surveys to locate cultural resources have been completed in the Deerfoot Resource Area; a single Class I (National Register-eligible) site was identified (Site Number 10-KA-243). The Forest Cultural Resource Specialist has made a preliminary determination that the proposed activities would have No Adverse Effect based on the design features listed on page 2-14 of the EA. The potential for impacts to undiscovered sites is addressed by compliance with Forest Plan standards and guidelines, and through the use of standard timber sale contract provisions.

The degree to which the action may adversely affect an Endangered or Threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973: The Selected Alternative was designed in a manner that would protect wildlife, fish, and rare plant resources in the Deerfoot Resource Area (EA page 2-11). There would be no significant impact to any species, and there would be no loss of viability to populations or species (EA, Sections 3.4.4, 3.6.5, and Appendix E).

Whether the proposed action threatens a violation of federal, state, or local law or requirements imposed for the protection of the environment: The proposal meets federal, state and local laws for air and water quality, streamside management, riparian areas, cultural resources, and Threatened and Endangered species, and meets National Environmental Policy Act disclosure requirements as described in this Decision Notice and the Environmental Assessment (EA, Chapter 3, by resource).

National Forest Management Act and IPNF (1987) Forest Plan**:** The Selected Alternative is consistent with the NFMA and other applicable federal, state and local laws that protect the environment, including the IPNF (1987) Forest Plan, as amended. The activities proposed in the Deerfoot Resource Area are consistent with the Forest Plan because they would reduce fuels in the wildland urban interface and help promote long-lived, fire-resilient, seral species on the landscape. All proposed management activities would be in compliance with Management Area direction, including goals and objectives, as described in the Chapter 3 of the EA.

Forest Plan old-growth standards would be met. A detailed review of the old growth in OGMUs 321 and 324 took place with this analysis. Forest Plan old growth standards/definitions were used (PF Doc. VEG-, 27, 31, 32, 33, 34) and validation (PF Doc. VEG-4) included recent field exams, field reviews and 2004 photo interpretation. No additional stands were found to add to the allocation.

Forest-wide analysis of old growth (R1 Vegetation Classification, Mapping, Inventory and Analysis Reports, 04/11/2006 and 05/16/2007; and Review of Old-Growth Assessments for the Idaho Panhandle National Forests, 7/26/2006), as disclosed in the 2004 Monitoring Report (PF Doc. CR-026), concludes that 12 percent of the IPNF is allocated old growth, with the Coeur d'Alene River Ranger District exceeding its' share of the allocated acres. The Proposed Action does not include any harvest in any allocated old growth.

NFMA consistency requirements include the need to protect species viability and habitat for Threatened, Endangered, Sensitive Species as well as habitat for Management Indicator Species and forest species of concern. The Selected Alternative was designed to be implemented in a manner that would protect wildlife and fisheries resources in the Deerfoot Resource Area (EA p. 3-104 through 3-107, EA p. 3-143 through 3-196). There would be no significant impact to any species, and there would be no loss of viability to populations or species.

Technology and knowledge exists to ensure that lands are adequately restocked within five years after final harvest. Effects on residual trees and adjacent stands have been considered. Harvest will not occur on sites identified as not suitable for timber production. All treatments that would occur under the Selected Alternative are silviculturally appropriate and are within the timber and vegetation practices outlined in the Forest Plan. Potential physical, biological, aesthetic, cultural, engineering and economic impacts of the Selected Alternative have been assessed and are disclosed in the Environmental Assessment with supporting information in the Project Files. A request to exceed the 40 acre size limitation on specified regeneration harvests has been approved in accordance with FSM 2470.1 as described by Section 6 of the National Forest Management Act, which requires that harvests designed to regenerate an even-aged stand of timber are subject to established maximum size limits (16 USC 1604 (g) (3) (F) (iv) and 36 CFR 219.27 (d) (2).

5. Documents and Project Files

This Decision Notice summarizes analyses that have led to this point in the process. More reports and analyses documentation have been referenced or developed during the course of this project and are part of the Project Files. All project files for the Deerfoot Resource Area project are available for review by the public. The project files may be reviewed at the Fernan Office of the Coeur d'Alene River Ranger District, or are available on compact disk upon request. To review the files, please contact the NEPA Coordinator at the Coeur d'Alene River Ranger District (Fernan Office), (208) 664-2318.

6. Appeal Rights and Implementation

This decision is subject to appeal pursuant to 36 CFR 215.11. A written appeal must be submitted within 45 days following the publication date of the legal notice of this decision in the *Coeur d'Alene Press* (Coeur d'Alene, Idaho) newspaper. It is the responsibility of the appellant to ensure their appeal is received in a timely manner. The publication of the data of the legal notice of the decision in the newspaper of record is the ***exclusive*** means for calculating the time to file an appeal. Appellants should not rely on date or timeframe information provided by any other source. Appeals must be submitted to:

USDA Forest Service, Northern Region ATTN: Appeal Deciding Officer P.O. Box 7669 Missoula, MT 59807	*or*	USDA Forest Service, Northern Region ATTN: Appeal Deciding Officer 200 East Broadway Missoula, MT 59802

(Office hours are from 7:30 a.m. to 4:00 p.m. Monday through Friday, except holidays.)

Electronic appeals must be submitted to:

appeals-northern-regional-office@fs.fed.us

In electronic appeals, the subject line should contain the name of the project being appealed. An automated response will confirm your electronic appeal has been received. Electronic appeals must be submitted in MS Word, Word Perfect, or Rich Text Format (RTF). It is the appellant's responsibility to provide sufficient written evidence and rationale to show why my decision should be reversed. The appeal must be filed with the Appeal Deciding Officer in writing. At a minimum, an appeal must meet the content requirements of 36 CFR 215.14 and include the following information:

- ✓ *Appellant's name and address, with a telephone number if available;*
- ✓ *Signature or other verification of authorship upon request (a scanned signature for electronic mail may be filed with the appeal);*
- ✓ *When multiple names are listed on an appeal, identification of the lead appellant and verification of the identity of the lead appellant upon request;*
- ✓ *The name of the project for which the decision was made, the name and title of the Responsible Official, and the date of the decision;*
- ✓ *The regulation under which the appeal is being filed, when there is an option to appeal under either 36 CFR 215 or 36 CFR 251, Subpart C;*
- ✓ *Any specific change(s) in the decision that the appellant seeks and their rationale for those changes;*
- ✓ *Any portion(s) of the decision with which the appellant disagrees, and their explanation for the disagreement;*
- ✓ *Why the Appellant believes the Responsible Official's decision failed to consider the substantive comments; and*
- ✓ *How the appellant believes the decision specifically violates law, regulation, or policy.*

An appeal will be dismissed if the preceding information is not included in the Notice of Appeal. If an appeal is received on this project, there may be informal resolution meetings and/or conference calls between the Responsible Official and the appellant. These discussions would take place within 15 days after the closing date for filing an appeal. All such meetings are open to the public. If you are interested in attending any informal resolution discussions, please contact the Response Official or monitor the following website for postings about current appeals in the Northern Region of the Forest Service:

http://www.fs.fed.us/r1/projects/appeal_index.shtml

If no appeal is received, implementation of this decision may occur five business days from the close of the 45-day appeal-filing period. If an appeal is received, implementation may not occur for 15 days following the date of appeal disposition. I am the Responsible Official for this decision. For more information regarding this project, contact Project Team Leader Sarah Jerome (208-783-2100) or Ecosystems Staff Officer Sherri Lionberger (208-664-2318) at the Coeur d'Alene River Ranger District.

Ranotta K. McNair

Ranotta K. McNair
Forest Supervisor
Idaho Panhandle National Forests

4/30/08
Date

Appendix A - Response to Public Comments

Comment Letter from Mike Mihelich (KEA, The Lands Council, WildWest Institute)

Comment: "The EA did not address the EMS issues described in the KEA comment letter. Expert agency comments are lacking regarding whether Element 4.5.2 applies to the Deerfoot project. Expert agency comments are lacking as to whether any CAR forms were submitted to the District Ranger relating to travel management/resource damage or aquatics/fisheries issues in the Resource Area and cumulative effects analysis (CEA) area."

Response: The EA did not include a discussion of EMS issues as described in the KEA comment letter; however the comment was addressed in the Project Files (Project File Doc. PI-008, page 19). The response states: *"The IPNF Environmental Management System (EMS) is a systematic approach to improving environmental performance. The EMS is based on the plan-do-check-act cycle to establish goals, implement plans to meet the goals, determine progress, and make environmental improvements. The EMS is a Forest-wide policy, and as such applies to the entire forest. A review of CAR forms revealed one within the Deerfoot Resource Area, which involved the breach of barriers with ATV's. This is addressed with the proposed action. CAR forms are on file at the district office."*

Comment: "The information cited from GTR-120 and the PNAS article indicates there is significant scientific uncertainty associated with the effectiveness of fuels treatments such as logging as a means to reduce fire hazards."

Response: According to Graham et al. (RMRS-GTR-120, 2004, PF Doc FF-6), *"fire behavior and severity can be understood and predicted in general terms, but exact predictions are not possible."* Another quote from Graham et al. is this: *"A key point from these examples is that thinning treatments that are followed by reduction of surface fuels can significantly limit fire spread under wildfire conditions".* Confusion regarding the effectiveness of fuel treatments can be created when studies that describe the effects logging **without** subsequent treatment of surface fuels are applied to logging **with** treatment of residual surface fuels, as this project proposes (see EA page 3-61). Another source of confusion is comparing different forest types, such as those described in the PNAS article in southwest Oregon, which are not comparable to the Deerfoot Resource Area, and many of the conclusions do not apply. This is addressed in the EA on pages 3-56 and 3-62.

Comment: "The crown fire discussions in GTR-463 indicate there is scientific uncertainty associated with crown fire analysis and incomplete or unavailable information. The WO Memo of May 2, 2007 concerning best available science directly relates to crown fire analysis in the EA. The DN and FONSI need to include language that indicates the scientific uncertainty and incomplete or unavailable information regarding crown fire analysis, as required by NEPA at 40 CFR 1502.22 and 1502.24."

Response: As the EA states on page 3-51, *"The majority of the scientific literature supports the effectiveness of fuel treatments in reducing the probability of crown fire (PF Doc FF-64, Peterson et al. 2005)."* There is always uncertainty associated with models, as they are abstractions of reality and not reality itself (Graham et al. 2004, PF Doc FF-6). All models are based on simplifying assumptions and have limitations which are explained in the respective model description in the project file (EA page 3-39, PF Doc. FF-14, FF-18, FF-34). The EA contains the best available science relating to crown fire (pages 3-50 through 3-51, 3-56 through 3-57).

Comment: "Nowhere in the EA is the USDA OIG Audit Report cited and there are no expert agency comments in the EA that indicate whether any portion of the Audit applies to the Deerfoot project."

Response: The EA did not cite the USDA OIG Audit Report, but it was reviewed in response to KEA's letter received during the scoping period. This response was included in the Project File (PF Doc PI-008, page 23). The response is as follows: *"The findings of the OIG audit are meant to be interpreted at the national scale, and are not within the scope of this project. Examples of these findings are national guidance for weighing risk vs benefits of fuel projects, and the national budget process that determines funding of fuel projects. The OIG audit also states that "measures and standards do not communicate whether the treatment of an acre has resulted in changing its condition class."* However, at the Resource Area scale, Figure 3-FF-16 and 3-FF-17 show the change in Fire Regime Condition Class that would result from the Proposed Action.

Since it is not directly applicable to the Deerfoot Resource Area project, the audit report is not included in the project files, although it is readily available at www.usda.gov/oig/audits.htm

---

Comment: "The monitoring discussions on page 2-15 and elsewhere in the EA do not contain any mention of IPNF 2005, 2006, or 2007 Forest Plan Monitoring and Evaluation (M&E) Reports. Apparently the IPNF did not prepare and release to the public any M & E Report in 2005, 2006, or 2007. It is stated on page 3-25 there is an upcoming Forest Plan Monitoring Report…If in fact no M & E Reports were prepared and released to the public for 2005, 2006, or 2007 the IPNF has not been in compliance, and continues to be in noncompliance with NFMA 36 CFR 219 regulations that require the production and release to the public yearly Forest Plan Monitoring and Evaluation Reports. NEPA at 40 CFR 1500.1(b) requires high quality information with expert agency comments. If the required M & E was not performed in 2005, 2006, and 2007 the Forest Plan Monitoring statements made on page 2-15 are not accurate and do not meet the NEPA 40 CFR 1500.1(b) requirements."

Response: At the time of the Deerfoot analysis the latest published FP Monitoring Report available was 2004. However, where more recent information was available, that info was included in the analysis. For example: at EA pg 3-25: "Updated TSMRS queries were run in 2007 for an upcoming Forest Plan Monitoring Report (PF Doc. VEG-28). Those queries indicated …."

Comment: "The EA does not mention this Memo (WO Memo dated May 2, 2007 that concerns best available science) and does not indicate whether responsible opposing views disagree that logging will in fact reduce fire hazards. The EA does not indicate there is significant scientific uncertainty associated with the use of fire models. There is also significant scientific uncertainty concerning reducing the threat of wildfires when there are no guaranteed funds to perform follow up activities such as removing surface fuels over a number of years after logging activities are completed."

Response: The EA includes a thorough review of conflicting science regarding fuel treatment effectiveness (EA page 3-61). The EA also acknowledges that all models used in the analysis have simplifying assumptions and limitations, which are included in the project file (EA page 3-39, PF Doc FF-14, FF-18, FF-34). The effects of the proposed vegetation management activities are well-defined with a high degree of certainty, because the effects were determined using site-specific data, supported by observation and research applicable to the forest types of the Deerfoot Resource Area (EA page 3-62). In some instances, future maintenance would enhance the longevity of the proposed treatments, but the direct effect of the proposed activities to reduce fuels would occur regardless of guaranteed future funds

---

Comment: "The aquatics section in the EA describes the WATSED model but does not address ECA issues as they apply to the Deerfoot project and does not discuss the ETAC model…The EA described a number of limitations of the WATSED model on page 3-73 but there is no discussion on page 3-73 or elsewhere regarding WATSED and the ECA component associated with WATSED… The EA does not contain expert agency comments concerning calculations of ECA for the project area and CEA area. The EA does not indicate whether the best available science was used for sediment and water yield calculations since there is no discussion of ECA, and no mention of the ETAC model…The EA did not disclose incomplete or unavailable information concerning the ECA issues and did not disclose scientific uncertainty as it relates to WATSED and accurate representation of the ECA segment of WATSED."

Response: The discussion of the WATSED Model on EA page 3-73 discloses the methods documented in the R1/R4 Sediment Guides as well as project file support for WATSED Model Limitations (PF Doc. AQ-01) that disclose the use of ECAs within the model. Each project area watershed as an independent WATESED model run, this was then cataloged (PF Doc. AQ-10 – 14) where the ECAs were used in determining the water yield increases for each as modeled by WATSED. Also, for every project area watershed, watershed characteristics were disclosed that specifically discussed hydrologic regime for the watershed and the Equivalent Clearcut Acres (ECA) disclosed (PF Doc. AQ-05 – 09) reported out as a percentage for the entire watershed.

Comment: "The EA does not indicate whether the Douglas-fir species found in the Deerfoot Resource Area and Coeur d'Alene Basin is the same species as the coast Douglas-fir (*Pseudotsuga menziessi* (Mirb.) Franco var. *menziesii*). …If the Douglas-fir species found in the Resource Area, and the Coeur d'Alene Basin is not the same species as described in GTR-696, and therefore does not include any of the traits associated with the coast Douglas-fir, the DN and FONSI need to include high quality data with expert agency comments that list the differences between the two Douglas-fir species… If the Douglas-fir species found in the Resource Area and Coeur d'Alene Basin area is not a moderately intolerant species that grows best with full overhead light, the project files need to include the current USDA Forest Service scientific literature that describes the specific Douglas-fir species that is found in the Resource Area and

Coeur d'Alene Basin. The scientific name for the Douglas-fir species that is found in the Resource Area and Coeur d'Alene Basin needs to be included in the DN and FONSI"

Response: From page 9 of the cited reference (GTR-69, PF Doc. VEG-67): "As we use the term, the "Douglas-Fir Region" is the region lying between the crest of the Cascade Mountains and the Pacific Ocean in western Washington and western Oregon, plus a considerable area of similar conditions in southwestern British Columbia including Vancouver Island. This geographic area encompasses most of the range of coast Douglas-fir (*Pseudotsuga menziesii* (Mirb.) Franco var. *menziesii*), which extends southward more narrowly into northern California."

From pg 527, FS Agriculture Handbook 654 (PF VEG-R27) find detailed explanation of the full ranges of Pseudotsuga menziesii Franco var. menziesii (coast DF) and Pseudotsuga menziesii var. glauca (Rocky Mountain DF). The Deerfoot Resource Area is clearly in the Rocky Mountain area (not coastal area). Reasonably if the FS was proposing management of coastal DF in the Rocky Mountain region, it would be scientifically required to examine in detail the differences between the two types of DF. Within the Deerfoot Resource Area only native trees (in the case of DF-Pseudotsuga menziesii var. glauca are proposed for management. The project file contains numerous references associated with DF management within the Rocky Mountain Region.

Comment Letter from Jonathan Oppenheimer (Idaho Conservation League)

Comment: "We support efforts to consider additional road decommissioning in the project area. While we recognize that a number of roads have been obliterated in the last decade, remaining road densities make it apparent that there is more work to be done."

Response: Within the watershed cumulative effects area the miles of road per square mile are reported out for ***both*** National Forest Service (NFS) and Private Lands combined (Table 3-AQ-1; page 3-76). In support of the road densities the percentage of NFS lands managed for the public are also included in this table and are variable by watershed (30-94%). An aspect of this road infrastructure is the fact that a portion of the NFS road densities are open, designated motorized routes. In review, a considerable amount of road decommissioning on NFS lands has occurred in the past decade (Deerfoot EA – pages 3-76:84; PF Doc. AQ-39) up to 69% of the previous road densities. As one can see from the table (PF Doc. AQ-39), existing condition road densities on ***private land*** elevate the overall road densities (miles/mile^2) in the cumulative effects analysis area watersheds (range 9.4% to 62.1%). The Proposed Action alternative cannot reduce these private land road densities. Consequently it is the combination of the past, present, ongoing reasonable foreseeable, direct, indirect, and cumulative affects determinations that include private land activities (i.e. private roads) that are then reported and disclosed.

Comment: "We are concerned that the project proposes new road construction, and encourage you to drop the units accessed by these roads, or to reconsider helicopter yarding in these units as an alternative."

Response: The segments of new road construction are located high on ridges that will have minimum impact on water quality. These roads will be used for the harvest, and then for post treatment activities, but will then be closed to public use. Due to current economic considerations, it is not viable to convert these units to helicopter yarding. Dropping units that need road access does not meet the purpose and need of the project to reduce fuels and improve species composition, as well as stand and landscape structure in those areas.

Comment: "With regards to the logging, we ask you to consider incorporating additional timing restrictions to protect soils in the project area. We encourage you to reconsider winter logging in the project area."

Response: With the nature of the proposed harvest units in the Deerfoot Resource Area being primarily low-elevation, warm aspects, restricting harvest to be completed on top of a winter snow pack or on frozen ground would likely be highly limiting, or even impossible for an operator to complete in a given timeframe. There is no plan to restrict harvest operations to winter months, but winter operations could take place, if the conditions were appropriate. Specific features of the proposed action designed to protect soils are described in the EA on page 2-13. In addition, the combination of past activities and those that would occur under the proposed action meet both the Regional Standard of not exceeding 15 percent detrimental disturbance as well as the Forest Plan Standard of 20 percent (EA page 3-128).

Comment: "Further, we ask you to consider alternatives to regeneration logging prescriptions. New research from the Rocky Mountain Research Station, and elsewhere is showing the benefits associated with diversity on the landscape. Especially in moist forest environments, which dominate the Deerfoot Project Area, the retention of clumps and untreated areas may be beneficial in terms of limiting fire spread, while providing for opportunities to reestablish long lived seral species (i.e. white pine, larch and p. pine). We encourage you to evaluate the feasibility of Free Selection as an alternative to regeneration logging in the project area, or at least to reduce the intensity of regen logging, adding a component of free selection, thin from below, and other prescriptions to meet the purpose and need."

Response: The project file contains 3 references (VEG-R77, R80 and R136) related to the use of 'free selection'. First, 'free selection' is not standard terminology from either Society of American Foresters or the Forest Service. At PF Doc. VEG-R77, 'free selection is defined as a "multi-entry, uneven aged system". At EA 3-29 under the Forest Plan Timber Standards, "while uneven-aged structures can be viable on many dry sites (where Deerfoot treatments are focused) similar to this area, such treatments were not proposed given the current stand health concerns and the lack of long-lived early seral stand species compositions". In addition, multi-entry harvest systems require higher road densities than single harvest entry systems. Keeping road densities to a minimum is traditionally an important multi resource concern, as it also is in Deerfoot. At EA pg 3-17 is a detailed explanation of the proposed regeneration harvest treatments which are described as variable retention shelterwoods with reserves.

Comment: "We encourage you to retain all live white pines."

Response: At EA pg 2-11 under the Proposed Action Features Designed to Protect Forest Vegetation, "Treatments would meet white pine retention guidelines (USDA, 1994; PF Doc. VEG-R58)". These guidelines assist forest managers in making decisions regarding white pine in a way that will contribute to our long tern goal of restoring white pine as a functioning component of the ecosystem.

Comment: "The EA is confusing with regards to the differentiation between prescribed burning, underburning and broadcast burning. This should be clarified in the final."

Response: We will attempt to clarify this in the Decision Notice, and in future documents. Prescribed burning is a general term to describe the application of fire to the landscape. Terms such as underburning and broadcast burning have more specific definitions. Underburning is a type of burning designed to reduce fuel accumulations beneath an overstory tree canopy, and to achieve specified levels of site preparation. Broadcast burning is prescribed burning through a continuous fuel cover, designed to treat one or more land management objectives, such as site preparation. Broadcast burning is generally done where there is little to no overstory.

Comment Letter from Jeff Juel (TLC, WildWest, KEA, Alliance for the Wild Rockies

Comment: "The EA indicates that the project's purpose is "To reduce hazardous fuels and to promote more resilient, healthier forests" (EA at 1-2.) The EA on 1-8 indicates that the proposed action is a part of a long-term program…This is a set of actions that were not contemplated in the Forest Plan. The IPNF has not analyzed and disclosed the environmental, social, and economic impacts of its fuel reduction and "forest health" management regime for the Deerfoot Resource Area."

Response: The EA does not imply that the proposed action is a part of a long-term program, it merely acknowledges that future treatments would be necessary to shape and maintain the desired stand conditions, and that any future actions would be planned and analyzed at the appropriate time following the applicable legal requirements (EA page 1-8). In regards to the Forest Plan, it does analyze the use of timber harvesting and prescribed fire to meet the goals of the Forest Plan. All proposed activities are consistent with Forest Plan guidance (see EA, compliance with Forest Plan Standards in each section)

Comment: "Given that many of the "problems" that are alleged to exist that this proposal is proposed to address are the result of fire suppression, the IPNF must analyzed and disclose the cumulative impacts of its ongoing fire suppression and fire management regime, also never disclosed during Forest Planning. The IPNF must consider an alternative that would allow natural processes, rather than merely assuming natural processes are somehow "bad.""

Response: The Deerfoot Resource Area EA thoroughly discloses the cumulative effects of fire suppression (beginning with EA page 3-44 and periodically through page EA-61). Forest planning is outside the scope of this project, and so is not addressed by the Deerfoot EA. An alternative that would "allow natural processes" was not suggested during the

initial scoping period, so was not analyzed. It is not clear if this is an alternative for this project, or for the Forest Planning process. A more appropriate time to suggest alternatives to the proposed action is during the initial scoping period

---

Comment: "The development of approved fire management plans in compliance with the Federal Wildland Fire Policy was the number one policy objective intended for immediate implementation in the Implementation Action Plan Report for the Federal Wildland Fire Management Policy and Program Review. In general, the FS lags far behind other federal land management agencies that have already invested considerable amounts of time, money, and resources to implement the Fire Policy. Continued mismanagement of national forest lands and FS refusal to fully implement the Fire Policy puts wildland firefighters at risk if and when they are dispatched to wildfires."

Response: The IPNF has an approved fire management plan in accordance with the Review and Update of the 1995 Federal Wildland Fire Management Policy (2001, PF Doc FF-22). This document is available on the internet at http://www.fs.fed.us/ipnf/eco/fire.html, or can be reviewed at the district office.

Comment: "The EA does not disclose how the vegetation patterns that have resulted from past logging and other management actions would influence future fire behavior."

Response: The fire/fuels analysis in the EA uses current, field verified (PF Doc FF-57) information on vegetation and fuel patterns throughout the entire Resource Area to determine the direct effects of the proposed activities at the Resource Area scale (EA page 3-57, 3-58). Since the information used is current, it includes the vegetation patterns resulting from past activities (PF Doc FF-94). The effects of the proposed activities on surface, ladder and crown fuels over time are displayed in Figures 3-FF-11, 12 and 13.

Comment: "The EA doesn't adequately consider that vegetation patterns, including tree species, will be different than present or past due to the different annual weather patterns realized with our changing climate due to global warming."

Response: This comment is well taken, especially in light of a recent (1/16/2008) FS Chief speech about climate change and forest management at a National Conference on Science, Policy and the Environment (PF Doc. VEG-65). She started with "forests can make a difference". Chief Kimbell discussed how the FS has been focusing on climate change research for a very long time (about two decades) and has a century of science and management experience. She ended with a list of science needs which included needs associated with the issue of uncertainty and how to manage it. The Forest Service website (http://www.fs.fed.us/kidsclimatechange/climate.shtml) has much relevant climate change information.

Foresters have always managed natural resources knowing that fire, weather, insects, humans, etc. could change the forest at any time or over time. Part of the art and science of forest management is how we manage some level of uncertainty. Natural resource management based on management of diversity and resilience comes from this management of uncertainty. The fire/fuels and vegetation project files have many references associated with change. While we know climates change and are changing; we do not know detailed specifics of how our particular ecosystem will change, how the changes affect animals and plants and what the landscape-scale conditions are most likely to sustain ecosystems in a changing climate. "Although quantitative models can estimate a range of potential directs and magnitudes of environmental changes and forest responses in the future, models rarely can predict the future with the level of accuracy and precision needed by resource managers" (Pilkey and Pilkey-Jarvis, 2007 from Millar, etal, 2007 at PF Doc. VEG-R89).

"The premise of an uncertain but certainly variable future is effectively best addressed with approaches that embrace strategic flexibility" (Hobbs et al. 2006 from Millar et al 2007 at PF Doc. VEG-R89). "Managing in the face of uncertainty will require a portfolio of approaches, including short term and long term strategies that focus on enhancing ecosystem resistance and resilience" (Millar 2007 at PF Doc. VEG-R89). "Many forest plants and animals have evolved to adapt to… variability, but the effects of drastic changes in silvicultural practices do not seem warranted. Instead, modification of well-developed practices will likely be sufficient" (Tappeiner, 2007 at PF Doc. VEG-R87).

The Forest Service strategy for dealing with climate change and helping forests adapt is to restore the resilience of forest, range and aquatic ecosystems (Forest Service 2/29/2008 Briefing Paper; PF Doc. VEG-66). The Deerfoot EA vegetative resources "objectives relate to the need for a healthy and resilient forest ecosystem" (EA pg 2-6). "Healthy landscapes…have adapted over time to have high resilience to local disturbances and lower susceptibility to catastrophic events. Resilience is the amount of change or the amount of change that a system can absorb

before it undergoes a major shift in composition, structure or processes…. Much of the forest vegetation analysis compares the existing condition and the outcome of the proposed action to the desired condition in the Deerfoot Resource Area (PF Doc. VEG-7)" (EA pg 3-2). This desired condition was not developed only from a view of the past. "The desired condition is specific to the Deerfoot Resource Area and was developed with a historic view of the Coeur d'Alene Basin and current restoration needs developed by the Geographic Assessment **as well as** some level of uncertainty to completely predict future conditions" (EA pg 3-2). Specific to your comment associated with vegetation patterns including tree species, the Deerfoot desired condition focuses on a diversity of species which includes all the native species. The desired condition calls for an increasing trend above the current condition of the native disturbance (drought, fire, insects, disease, etc.) resilient species ponderosa pine, western larch and white pine. The keys here are diversity and resilience of composition, structure and function.

Comment: (Hayward 1994 Quote) – "This it really calls into question the entire mechanical manipulation/ prescribed burning regime. The project area and IPNF have been fundamentally changed, so the FS must consider how much native forest it has fundamentally altered compared to historic conditions forestwide before pursuing "treatments" here. Essentially, this means considering new scientific information on all kinds of changes away from "historic conditions"— and in the forestwide context of Forest Plan Revision—not on a project-level basis prior to revision."

Response: Hayward does not mention mechanical manipulation or prescribed burning in the cited quote, but he is cautioning the use of a direct comparison to historic conditions. The Forest Vegetation analysis supports the need for improvements in species composition and distribution of stand structure based on historic conditions **and** a range of desired future conditions (EA pages 3-11,3-12) Forest-wide historic conditions are addressed at the Forest Plan level.

Comment: "The vegetation cumulative effects discussion focuses almost entirely on tree species, and discloses too little on other important plant species that would be differentially affected by the alternatives. Important food sources for wildlife must be included in any ecologically sound analysis of vegetation management."

Response: Changes in grass, forb and brush component as it relates to wildlife forage and prey can be found in EA pages 3-150, 3-151, 3-176, 3-184, 3-185, 3-187 and 3-188.

Comment: "The EA mixes, and thus confuses, the two separate "purpose" issues (hazardous fuels and forest health). Clearly, maintaining parts of the forest in "safer" fuel conditions is not in accord—and in fact often conflicts—with maintaining natural, ecological processes. "Excessive fuels" from one perspective is cover habitat from the perspective of a pine marten or fisher, and the very processes that cause the alleged "forest health" problems are what create dead tree habitat for a myriad of native wildlife."

Response: The EA specifically focuses on reducing hazardous fuels, improving species composition and stand structure on **dry sites.** These are areas where reducing hazardous fuels and maintaining natural, ecological processes are not in conflict. Pages EA 1-4 through 1-7 include an extensive explanation of the purpose and need for this project. The proposed action would have no impact on individual pine martens or their habitat. The proposed action would impact individual fishers, but would not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species. See Section 3.6 of the EA (Wildlife) for more information.

Comment: "Such concerns along with several others were expressed in previous comments and appeal of the Deerfoot proposal in earlier iterations. This EA has failed to respond to many of those concerns in a good-faith effort, so we incorporate, within these comments, the previous comments and appeal."

Response: The comments and appeal from the 2003 Deerfoot EA cannot be incorporated into this project. Although the projects share the same name, the alternatives are different, the EA is different, and many of the comments may no longer be applicable to this EA. In addition, there is no regulatory guidance to allow past comments from a different project into this assessment.

Comment: "The EA fails to deal with the hazardous fuels issue on the appropriate landscape scale. The EA only discusses fuel conditions in the areas proposed for treatment, yet wildland fire operates beyond artificial ownership or other boundaries."

Response: The EA discloses the effects of the activities at the appropriate landscape scale beginning on page EA 3-57. The EA also discusses fuel conditions on all ownerships in the cumulative effects discussions on pages 3-52 through 3-54 and pages 3-60 through 3-61. The figures in the fire/fuels analysis (3-FF-5, 3-FF-10, 3-FF-15, 3-FF-16)

show land on all ownerships within the Resource Area, which is delineated with prominent ridgelines on all but one side.

Comment: "The EA fails to disclose that modeling such as that depicted in Figure 3-FF-15 has not been validated to be able to support the point the EA attempts to make with the use of the figure."

Response: The EA discloses clearly on page 3-58 that the modeling has limitations: *"As with all models, FlamMap is based on simplifying assumptions and has several limitations (PF Doc FF-34); results should not be interpreted literally, but can be compared on a relative scale. Also, this theoretical fire and weather pattern may never occur; however, the general theme of the modeling results is valid."* In addition, Finney et al. (2005, PF Doc FF-40) address validation of such modeling compared to observed wildfire behavior. They state that "High-resolution satellite imagery of fire activity, although rare, revealed fuel treatments in process of diverting fire movement. This is consistent with modeling of landscape treatment patterns that indicates overall fire growth and large fire sizes can be reduced (Finney 2001)."

Comment: "The EA fails to include a thorough discussion and detailed disclosure of the current fuel situation within the fireshed within and outside the proposed treatment units, making it impossible for the FS to make scientifically supportable and reasonable conclusions about the degree to which fire behavior would be changed by the project."

Response: Current fuel conditions inside and outside the proposed treatments units and on all ownerships within the Resource Area are included in the Project File (PF Doc FF-57, FF-100). A summary example of the effects of the proposed treatments (including all ownerships) on fire behavior is included in the EA on page 3-57. In addition to this landscape-level analysis, stand level effects are thoroughly discussed beginning on page 3-49.

Comment: "The current fuel/fire hazard situation on land of all ownerships within project area was not displayed on maps. This should have included the fuel/fire hazard situation post-project on land of all ownerships within the WUI. The maps provided in the EA show even a single structure that would be threatened by the existing fuel conditions. It is not discernable why some locations in this area are included for treatment while others are not."

Response: Current fuel conditions inside and outside the proposed treatments units and on all ownerships within the Resource Area are included in the Project File (PF Doc FF-57, FF-100). There are approximately 450 structures on the east side of Hayden Lake and most are within a mile of the Deerfoot Resource Area (EA page 1-4). Locations were included for treatment based on the purpose and need for this project (EA page 1-4 through 1-7).

Comment: "The EA fails to answer a fundamental question: Will the fuel reduction activities be in any way significant, when one of any number of potential fire scenarios plays out on the land in the foreseeable future? One cannot tell, because the fuel conditions in the larger landscape surrounding "treatment units" are not discussed in a meaningful way."

Response: The EA does include the effects of the proposed activities on one potential fire scenario, and describes those effects in the larger landscape surrounding the treatment units. This scenario is described on page EA-58: *"The FlamMap model was used to simulate a fire's spread across the landscape, and to determine the collective effect of all of the treatments. The theoretical fire was started on the southwestern corner of the Resource Area, near Canfield Mountain. A fire originating on Canfield is a likely scenario, since it has one of the highest ignition densities of the district, due to the heavy recreational use. The fire was modeled with 20 mile per hour southwest winds pushing it across the Resource Area. FlamMap was used to calculate the* ***Minimum Travel Time*** *for the fire to reach each small piece of the landscape, resulting in the graphic in Figure 3-FF-15… The model shows that a fire moving across the Resource Area is significantly slowed by the treatments. The effects of treatments are most apparent at the northern end of the Resource Area, after the theoretical fire has encountered most of the proposed treatments. Under No Action, the fire reached Deerfoot Ridge at the north end of the Resource Area in 59 hours, while with the Proposed Action the same fire took nearly 80 hours to reach the same point… A slower moving fire would allow more effective fire suppression, resulting in fewer acres burned, reduced threats to human life and property, community infrastructure, air quality, water quality, and forest cover."*

Comment: "Likewise, the appropriate landscape scale for the "forest health" issues is also beyond the treatment units, but not adequately considered."

Response: While the vegetative direct, indirect and cumulative effects were limited to the Deerfoot Resource Area, the forest health issue and analysis was discussed and analyzed at the UCRB, Region 1, IPNF, CDA basin, Deerfoot Resource area and treatment unit scales. At EA pg 3-2 "The forest vegetation analysis compares the existing condition to the desired condition in the Deerfoot Resource Area, which was developed during the Ecosystem Analysis at the Watershed Scale analysis step (PF Doc. VEG-7). It is based on multiple resource objectives using direction of the Forest Plan and tiering to data and recommendations from the Geographic Assessment (USDA IPNF, 1998; PF Doc. CR-025), Columbia Basin Assessment (USDA, 2003 PF Doc. VEG-R11; ICBEMP, 1997, pages 37 and 59-67 PF Doc. VEG-R10); and the Northern Region Overview USDA, 1998, PF Docs. VEG-R8 and VEG-R9), Region 1 Integrated Strategy (PF Doc. CR-031), the Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Comprehensive Strategy (PF Doc. FF-24) and Implementation Plan (PF Doc. FF-25) and Analysis of the Management Situation for the Revision of the Kootenai and Idaho Panhandle Forest Plans (USDA, 2003, Chapter 3; PF Doc.VEG-R21)." Also at EA- 3-6 to 3-9, EA-3-25 to33, EA 3-38, and 3-40 to 46 Deerfoot is analyzed within the context of the CDA basin scale.

Comment: "The EA also fails to deal with the fuels issue on the appropriate temporal scale. The EA basically theorizes fire behavior at some short-duration fixed time period following treatment but doesn't consider the obvious fact that vegetation response to the proposed activities will be rapid in the understory, and also significant for smaller tree growth in the years following treatment. How those vegetation changes would affect fire behavior when one of any number of possible fire scenarios plays out on the land in the foreseeable future is also glossed over in the EA's overly simplistic analyses."

Response: The EA shows the effects of the proposed activities on surface, ladder and crown fuels over time in Figures 3-FF-11, 12 and 13. These effects are based on site-specific data, which is supported by research and observations conducted over time and applicable to the Resource Area (Jain, 2006 PF Doc FF-62; Jerome, 2007 PF Doc FF-85, etc). Vegetation response is included in the effects analysis, which considers long-term effects.

Comment: "The FS must have a detailed long-term program for maintaining the allegedly safer conditions, 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 funding necessary, and the likelihood based on realistic funding scenarios for such a program to be funded both adequately and in a timely manner."

Response: There is no requirement for the Forest Service to have a detailed long-term program for maintaining the conditions created by the proposed action. The vegetation treatment activities in the proposed action vary in intensity from prescribed burning to regeneration harvesting, and thus have a range of effects on fuels, with effects lasting from 10 years to 100 years or more. There is no major or unreasonable commitment of future resources required to maintain the proposed treatments, although they will be most effective in many cases if followed at some point in the future by activities such as prescribed burning and precommercial thinning.

Comment: "The EA at 3-62 responds selectively to Rhodes, 2007, failing to address several issues that science raises and in fact missing the main point of the study, which is that the cumulative effects of landscape-wide mechanical fuel treatments, which would be increased by the Deerfoot proposal, may be too high a price to pay ecologically and economically…Rhodes also points out that using mechanical fuel treatments (MFT) to restore natural fire regimes must take into consideration the root causes of the alleged problem…"

Response: The EA could not respond to Rhodes (2007, PF Doc FF-84) in a highly detailed manner, as the paper is nearly 100 pages in length. The EA responds to Rhodes (2007) statements concerning the effectiveness of fuel treatments in the fire/fuels section (page 3-62). The effects of the proposed activities on other resources, such as aquatics, are discussed in the appropriate section in the EA. The proposed activities are meant to respond to the purpose and need (EA pages 1-4 through 1-7), not necessarily to restore natural fire regimes.

Comment: "In proposing to protect private property and human health and safety from wildland fire destruction, fuel conditions within the Home Ignition Zone (HIZ) must be dealt with first and foremost. This was correctly recognized in a recent scoping letter from an adjacent national forest…"

Response: The Forest Service participates in Kootenai County's Wildland Urban Interface Fire Mitigation Task Force of the Local Emergency Planning Committee (LEPC, EA page 3-38). The WUI Task Force guides Kootenai County's FireSmart program, which has reduced the potential for structure ignition on 99 private structures on the east side of Hayden Lake in the last 5 years (EA page 3-61, PF Doc FF-80).

Comment: "Cohen, 1999 reviewed current scientific evidence and policy directives on the issue of fire in the wildland/urban interface and recommend the focus be on structure ignitability in the HIZ rather than extensive wildland fuel management…"

Response: Cohen (1999, PF Doc FF-96) states: *"Extensive wildland vegetation management does not effectively change home ignitability. This should not imply that wildland vegetation management is without a purpose and should not occur for other reasons. However, it does imply the imperative to separate the problem of the wildland fire threat to homes from the problem of ecosystem sustainability due to changes in wildland fuel. For example, a W-UI area could be a high priority for extensive vegetation management because of aesthetics, watershed, erosion, or other values, but not for reducing home ignitability."* The purpose of the Deerfoot project is not to reduce home ignitability, and therefore does not focus on the Home Ignition Zone (HIZ).

Comment: "Our take from Finney and Cohen (2003) is that there is much uncertainty over effects of fuel reduction, and this uncertainty is what the EA glosses over."

Response: As quoted in the comment letter, Finney and Cohen (2003, PF Doc FF-31) state that *"…the conceptual basis of fuel management is well supported by ecological and fire behavior research in some vegetation types."* These vegetation types include the dry, low elevation types in the Resource Area. They caution, however, the expectation of a diffuse array of benefits without the supporting analysis that evaluates how the benefit is physically derived from management action. The fire/fuels analysis and the vegetation analysis do exactly that, describing the direct physical effects of the proposed treatments and how they address the purpose and need for action.

Comment: "We believe 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 and other human built structures, and planning for access into and away from residences in the interface area."

Response: The FireSmart program in Kootenai County has already done extensive work near the Deerfoot Resource Area reducing fuels within the Home Ignition Zone (PF Doc FF-80). In addition, both FireSmart and the Forest Service have completed fuel reduction work to ensure safe access and egress in case of a fire along the main road around Hayden Lake (EA page 3-61). A natural progression is to then move farther out from the community; Finney and Cohen (2003, PF Doc FF-31) acknowledge that "Wildland fuel management in low-elevation forest types, extending perhaps many kilometers away from urban locations, however, is critical to reducing the likelihood that wildland fires will spread to urbanized areas and pose ignition threats." The proposed treatments are designed not only to reduce fuels, but also to improve species composition and stand and landscape structure within the Resource Area (EA pages 1-4 through 1-7).

Comment: "As stated early in these comments, the proposed actions are a part of a wider, continuing indiscriminate fire suppression strategy, without consideration of sensible wildland fire use—elevating the odds for the type of extreme fire events that would be most destructive to the ecosystem and to human values."

Response: The EA (page 3-51) states: "Although it is possible that wildland fire use will be employed in the future in parts of the Resource Area, it would likely be very limited since the Resource Area is in the wildland-urban interface. Given that there is no current plan to allow wildland fire use in the Resource Area, it is not a reasonably foreseeable activity, and this analysis was completed assuming fire suppression will continue." The appropriate management response to wildland fires is guided by the IPNF Forest Plan and the IPNF Fire Management Plan. These documents provide guidance for fire response, which is outside the scope of this project. However, the IPNF has begun implementing Wildland Fire Use on the St. Joe Ranger District, indicating that there is not a continuing indiscriminate fire suppression strategy.

Comment: "To the degree that this proposal focuses on dead and dying trees, it is not about reducing crown fires."

Response: This proposal does not focus on dead and dying trees, and does not claim that doing so will reduce crown fires.

Comment: "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 establish safe areas in the event of extreme wildfire events, and treat fuels to reduce potential extreme case fire intensity along escape routes to these safe areas or well beyond the fire's danger zone. **Outside these safe areas, the escape routes, and the HIZ, these researchers indicate no need to focus on fuel reduction for life safety reasons."**

Response: Cohen and Butler's assessment (2005, PF Doc FF-97) is for a very specific area in Montana, consisting of lodgepole and Spruce-fir forests, which is far different than the ponderosa pine/Douglas-fir forests that are the focus of this project. They say that forest fuel reduction is impractical and inappropriate for those ecosystems. However, in another publication applicable to the Deerfoot Resource Area, Finney and Cohen (2003, PF Doc FF-31) acknowledge that "Wildland fuel management in low-elevation forest types, extending perhaps many kilometers away from urban locations, however, is critical to reducing the likelihood that wildland fires will spread to urbanized areas and pose ignition threats."

Comment: "Nowhere does the EA substantiate that the risks realized by faster fire spread would be worth it in terms of whatever short-term changes in fuels that would result from the project."

Response: The effects of the proposed activities on fuels and potential fire behavior are variable, but in the case of the regeneration harvests the effects are long-term in nature (EA pages 3-49 through 3-51, 3-56). This is due to the change in species composition and stand structure brought on by the harvest, underburning and subsequent planting in the proposed action. A slower moving fire would allow more effective fire suppression, resulting in fewer acres burned, reduced threats to human life and property, community infrastructure, air quality, water quality, and forest cover (EA page 3-58).

Comment: "The EA relies upon Fire Regime Condition Class to determine departure from reference conditions."

Response: EA page 3-48 states: *"FRCC does not directly or specifically measure progress towards meeting the purpose and need, but it is used on a national level to report effects of vegetation management activities."* The EA shows changes in Fire Regime Condition Class because it is part of a national-level reporting system. The FRCC analysis was performed according to the procedures in the Interagency FRCC Guidebook (2005, PF Doc FF-52; PF Doc FF-51 and FF-57).

Comment: "The EA's vegetation analyses rest on the notion that fire suppression has led to vegetation conditions outside the historical norm, which will lead to effects uncharacteristic in the event of wildfire. Whereas vegetation conditions may well have been altered, there is ample scientific evidence that livestock grazing and past logging have caused just as significant, if nor more significant, effects on tree density and fuels arrangement."

Response: Livestock grazing is not now, nor has it ever been a significant activity in the Deerfoot Resource Area (EA page 3-28). Records of historic grazing show grazing on other areas of the district, but not in the Deerfoot Resource Area. A discussion of disturbance agents including past logging is included in the EA, beginning on page 3-7.

Comment: "Where the FS assumes taking no action will lead to uncharacteristic effects in the event of wildfire is also controversial in the literature. For example, Baker et al., 2006 point out…"

Response: There is a detailed analysis of the No Action Alternative under each resource in the EA; these analyses disclose where uncharacteristic effects are possible in the event of a wildfire. The EA accepts that mixed and high severity fires occurred in the past, and will likely in the future as Baker et al. point out (2006, PF Doc FF-102). In fact, the EA uses another piece of Baker research on page 3-44: *"Baker and Ehle (2001) reach several conclusions that are likely applicable to the resource area; such as longer fire rotations and spatially patchy fires suggest that a greater diversity of forest structures probably existed in the pre-Euro-American ponderosa pine landscape, (e.g. mixed and young forests as Leiberg described), possibly leading to some crown fires. Dense thickets of regenerating trees or dense old patches of trees may have been a part of the pre-Euro-American ponderosa pine forest landscape."*

Comment: "The EA fails to disclose what vegetation conditions are **within** the historical norm. It is clear that scientists disagree with the IPNF on this issue, especially since the EA fails to disclose actual data collected in the project area during the historical period. The IPNF provides inadequate data collected in the analysis area to show that there is genuinely a problem with forest or tree density, that has been caused by fire suppression, or any that logging will cure."

Response: In fact, the EA does disclose actual historical data collected in the Deerfoot Resource Area in the 1930's in PF Doc FF-56. In terms of current field data collection, of the 9,160 acres of NFS land in the Deerfoot Resource Area (367 stands), 6,305 acres (216 stands) have valid field stand exams dating from 1991 to 2007. The context of the analysis of the historic and current condition for Deerfoot is described In the Vegetative Analysis methodology section-- at EA pg 3-2 "The forest vegetation analysis compares the existing condition to the desired condition in the Deerfoot Resource Area, which was developed during the Ecosystem Analysis at the Watershed Scale analysis step (PF Doc. VEG-7). It is based on multiple resource objectives using direction of the Forest Plan and tiering to data and recommendations from the Geographic Assessment (USDA IPNF, 1998; PF Doc. CR-025), Columbia Basin Assessment (USDA, 2003 PF Doc. VEG-R11; ICBEMP, 1997, pages 37 and 59-67 PF Doc. VEG-R10); and the Northern Region Overview USDA, 1998, PF Docs. VEG-R8 and VEG-R9), Region 1 Integrated Strategy (PF Doc. CR-031), and Analysis of the Management Situation for the Revision of the Kootenai and Idaho Panhandle Forest Plans (USDA, 2003, Chapter 3; PF Doc.VEG-R21)." In addition at EA pg 3-5 to 3-13, the biophysical characteristics (including historic information), insects and disease, forest cover types, forest structure and landscape arrangement are described, compared and analyzed at multiple scales.

Comment: "In fact, the FS's claim to virtue for logging is not supported by the scientific literature. Veblen (2003) states…"

Response: Timber harvest is used as a tool to meet the purpose and need for the Deerfoot project, which is described on pages 1-4 through 1-7 of the EA. Veblen (2003) warns that the premise of wildfire hazard reduction and ecosystem restoration projects need to be critically evaluated by conducting area-specific research, acknowledge the limitations of fire history methodology, and avoid over-reliance on summary fire statistics. Veblen (2003) does not comment on logging in the cited quote. The EA addresses Veblen's concerns, beginning on page 3-41.

Comment: "Tiedemann, et al., 2000 challenge the FS's claim to understand the concept of "historic range of conditions" and seriously calls into question the whole notion that we can, or even should, try to replicate such conditions. "Nearly 100 years of fire exclusion, possible climate changes, and past management practices may have caused these communities to cross thresholds and to reside now in different steady states."

Response: The Forest Vegetation analysis supports the need for improvements in species composition and distribution of stand structure based on historic conditions **and** a range of desired future conditions (EA page 3-2, 3-12).

Comment: "Unfortunately, the dubious "historic range" analyses also support the creation of multiple 40+ acre openings (clearcuts) by this proposal."

Response: The many references in the EA associated with why and how 'historic range' was used in this analysis are found at EA pg 3-2, EA pg 3-5 to 3-14, EA pg 3-30 to 3-31, EA 3-38, EA 3-40 to 3-46, and PF Doc. VEG-7. The project files also contain numerous references.

The National Forest Management Act (16 USC 1604 (g) (3) (F) (iv) and 36 CFR 219.27 (d) (2) and Forest Plan direction concerning limits of 40 acres are for "harvests designed to regenerate an even-aged stand of timber" not only for clearcuts. EA pg 3-30 and 31 disclose openings that meet such a criteria and the reasoning. At EA pg 3-30, "The management of fuels across large landscapes is required to effectively reduce the area and severity of fires, to increase recreation benefits, and to reduce the negative effects such as smoke emission, damage to wildlife habitat, stream habitat and fisheries (Graham PF Do. VEG-R14)."

Also, aside from the obvious landscape fuels reasoning, another way to consider decisions to regenerate openings greater than 40 acres is that some wildlife species require connected or continuous habitats. No vegetation type is static- it continually changes. Establishment of resilient large patches of connected or continuous patches today is the only way to have these desired conditions in the future.

Comment: "Yet on 3-44, the EA misinterprets the Baker et al. 2006 study, in terms of that study's geographic range. The IPNF needs to base NEPA analyses on careful readings of the research it cites and the scientific information presented to it by the public. Baker et al., 2006 indicates that mixed- and high-severity fire has very likely been historically common in the vast majority of the Rocky Mountains, including North Idaho. The EA cannot substantiate that most of the Deerfoot area is dry site with mostly high frequency low severity fires."

Response: There is no misinterpretation of Baker et al.'s (2006, PF Doc FF-102) geographic range. The text of Baker et al. (2006) is as follows: *"The hypothesis for increased Douglas fir, based on the low-severity model, is that cessation of frequent surface fires is allowing Douglas fir to invade ponderosa pine stands. However, fire scar and tree age data do not support that hypothesis, at least for the northern Colorado Front Range (Sherriff, 2004)"*. Baker et al. themselves make it clear that this conclusion may not apply elsewhere. The EA does not claim that most of the Deerfoot Resource Area is dry site with mostly high frequency, low severity fires. EA page 3-6 clearly shows that the Deerfoot Resource Area is comprised of 34% dry habitats. In addition, EA page 3-42 states: *"The entire Resource Area could be characterized as a mixed-severity fire regime, likely with higher frequency of low-severity fires on the dry sites, with moist sites seeing more mixed and high-severity fires (Schoennagel et al. 2004 PF Doc FF-60)."*

Comment: "The EA suggests on p. 1-8 that treatment would occur on all dry sites. But it elsewhere admits that logging is proposed "in moist forest habitat types ..half of Units 1, 4, 25, and all of 3" (p. 2-13). The EA does not justify vegetation treatments for forest health or fuel reduction in these moist sites....And, it is not clear that all the areas alleged by the EA to be dry site are in fact dry sites. The very fact that grand fire grows so well seems to belie that claim.

Response: The purpose and need focuses on dry sites, however, with the variability of the landscape, a small minority of the treatments occur on adjacent moist sites. More than 90% of the commercial harvesting will occur on dry sites (556 acres out of 608 acres), which are classified based on stand exam data and the categories described in the Biophysical Classification document included in the project files (PF Doc VEG-R15).

Comment: "Given the Native Americans' use of fire in the area, as the EA discusses, it is not reasonable for the EA to conclude that frequent fire on the "dry sites" is necessarily the natural fire regime."

Response: There is a debate as to whether Native American use of fire is considered "natural" or not. Regardless, records show that lightning is a significant source of ignition for the Deerfoot Resource Area. Of the 67 total ignitions in the cumulative effects analysis area, 25 of them were caused by lightning (EA page 3-47).

Comment: "In the paragraph on 3-42 that starts with "Baker and Ehle, (2001),..." the EA fails to explain precisely what methods Leiberg and Zack used which remedy the problems noted by Baker and Ehle. The IPNF seems bent on misrepresenting scientific dialogue."

Response: The methods used by Zack are described in detail in the project file (PF Doc FF-23). Leiberg completed a botanical survey of the Coeur d'Alene Mountains, which is included in the project file (1897, PF Doc FF-59). These separate pieces of site-specific research, along with site-specific fire-scar samples were used in conjunction with other research applicable to the forest types in the Deerfoot Resource Area to establish the fire regime in the Resource Area (EA page 3-41).

Comment: "Again, since the "fuel reduction regime" being proposed was not a planning scenario dealt with in sufficient detail (if at all) during Forest Plan development, both the project-level and programmatic ecological and economic costs and impacts go unexplained and undisclosed. The IPNF has not disclosed just how much of the Forest is considered to be likewise "out of whack" in alleged "forest health" terms nor disclosed how much of the Forest is to be treated for fuel reduction in a manner that emphasizes maintaining fuel conditions that are not consistent with native ecological processes."

Response: There is no "fuel reduction regime" being proposed. The EA merely acknowledges that future treatments would be necessary to shape and maintain the desired stand conditions, and that any future actions would be planned and analyzed at the appropriate time following the applicable legal requirements (EA page 1-8).

Comment: "The EA's analyses of the forest health issue are insufficiently based upon site-specific information on fire history and forest conditions for the project area, instead on overly simplistic conclusions based upon the assumption that fire suppression is a main cause of perceived vegetation problems and fire risk."

Response: There is an in-depth analysis of the fire history of the Deerfoot Resource Area beginning on page 3-41. This analysis is based on a historical botanical survey of the vicinity of the Resource Area (Leiberg, 1897; PF Doc FF-59), a historical forest survey including the Resource Area (PF Doc FF-56), a fire history study of the Coeur d'Alene's directly applicable to the Deerfoot Resource Area (Zack, 1994; PF Doc FF-23), and site-specific fire scar samples (PF Doc FF-61). Any conclusions regarding the role of fire suppression are based on this site-specific information and supported by research applicable to the forest types in the Deerfoot Resource Area (e.g. Hessberg et al. 2005, PF Doc FF-37; Keeling et al., 2006, PF Doc. FF-38; Mackenzie et al., 2004, PF Doc. FF-36; Keane et al., 2002, PF Doc FF-32, etc). In addition, disturbance agents and past activities such as timber harvest were considered in the analysis (EA page 3-7, 3-8, Appendix C page C-1).

Comment: "Their research (Baker et al., 2006) suggests these areas have most likely burned with moderate or mixed severity, with a mosaic pattern of mortality, rather than the more frequent low-intensity fire the FS assumes."

Response: Page 3-42 of the EA states: *"The entire Resource Area could be characterized as a mixed-severity fire regime, likely with higher frequency of low-severity fires on the dry sites, with moist sites seeing more mixed and high-severity fires (Schoennagel et al. 2004 PF Doc FF-60). Site specific evidence indicates that low-severity fires were common in the dry habitat types, while high-severity fires also occurred."*

Comment: "Other scientists have doubts about the efficacy of intensive fuels reductions as fire-proofing methods…"

Response: The effects of the proposed activities on fuels and fire behavior are described in detail beginning on page 3-49 of the EA. These effects are based on site-specific data, which is supported by research and observations conducted over time and applicable to the Resource Area (Jain, 2006 PF Doc FF-62; Jerome, 2007 PF Doc FF-85, etc). DellaSala et al. (1995) discuss logging that removes natural fire breaks such as moist pockets of late-seral and riparian forests, and fires in subalpine forests and the 1988 fires in Yellowstone National Park, none of which apply to this project or the Deerfoot Resource Area. There is a detailed discussion of conflicting science as it relates to fuel treatments on page 3-61 of the EA.

Comment: "Underlying much of the FS's claims on fuel reduction is that management can manipulate and natural processes to arrive at predicable 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."

Response: There is always some uncertainty in predicting the outcome of future events; however, the effects of the proposed action have been thoroughly analyzed, using the best available science and experience gained from similar activities. The conservative nature of the proposal is also a hedge against any uncertainty that may exist -- only 608 acres of timber harvest is proposed in the 10,540 acre Resource Area.

Comment: "Since field reviews are necessary for accuracy of old-growth inventories, the failure to maintain information on the accuracy of the IPNF's forestwide inventory leaves compliance with the 10% Forest Plan standard very much in doubt, which is where it has been since before the Douglas-fir Beetle project in the late 1990s."

Response: This comment is confusing as the 10% standard for allocated old growth at the IPNF scale is from the 1987 Forest Plan (FP). As stated on page EA 3-25, the IPNF currently fully meets the 10% standard. In addition, the IPNF has met this standard since FP monitoring began. In reference to potential changes in the amount of IPNF old growth allocated as a result of DF beetle mortality in the late 1990's- see EA pg 3-26 in the section Consistency with Forest Plan Old Growth Standards: "The 2004 Forest Plan Monitoring and Evaluation Report…discusses the use of a multi-scale approach on the IPNF to monitor old growth based on two separate, independent tools:

1) Forest Inventory and Analysis (FIA) data is used to calculate forest-wide and mid-scale old growth percentages; and
2) an IPNF stand map displays all stands allocated for old growth management, with old growth data recorded in the TSMRS database. "

The collection period FIA data above was 2000-2003 (PF Veg-68), well after the period of heavy Douglas-fir beetle mortality. EA pg 3-25 to 3-29 discloses attainment of all FP OG standards.

Comment: "The IPNF's apparent failure to accept numerical minimums of canopy layers, snags, and large down logs as old-growth criteria means that they are not considering the best scientific information available on wildlife habitat needs. Since the IPNF does not recognize the importance of canopy layers, snags, defective trees, and large down logs in terms of objective old-growth criteria, the proposed logging and burning are problematic. The amounts of those structures within mature forest could easily be substantially eliminated with the planned activities, delaying the time these areas could reach effective old-growth status."

Response: The Forest Plan directs use of Green et al. (PF Doc. VEG-R20) to define old growth. Green et al. and the IPNF clearly do recognize the importance of 'associate characteristics' such as canopy layers, snags and large down logs—they are discussed in detail in writing and tables of Green et el. At pg 11 of Green et al. states "because of the great variation in old growth stand structures, no set of numbers can be relied upon to correctly classify every stand....The minimum criteria in the "tables of old growth type characteristics" are meant to be used as a screening device to select stands that may be suitable for management as old growth, and the associated characteristics are meant to be used as a guideline to evaluate initially selected stands. Do not accept or reject a stand as old growth based on the numbers alone; use the numbers as a guide. A stand dominated by trees of the age and size listed under minimum criteria is generally good potential old growth. A stand should not be accepted or rejected as old growth simply on the basis of associated characteristics. The predominance of minimum criteria and associated characteristics, rather than a single number, generally will be an excellent guide. Be aware that the associated characteristics of "DBH variation" and "tree canopy layers" were only provided as a descriptor of what was most common in existing inventory data, and should not be used to decide whether a stand is really old growth. Use these numbers and descriptions as guides in applying the basic principle that old growth is a late stage of stand development . . .dominated by old trees and related structural attributes."

Of note is that Green et al. recognizes three broad old growth stand structures (Green et al. pg. 6)- late seral single and multiple canopy and near climax. Some characteristics of these groups have great variation. You cannot use these wide ranges alone because they may not help to identify the various structures that various types of old growth. For instance, for old growth group 1 (a common group-- see Green et al. pg. 8) representing the Douglas-fir and ponderosa pine cover types on a Douglas-fir/ninebark habitat type- the observed number of canopy layers in table 1 is single and multiple— this is reasonable based on field experience and the Green et al. old growth type descriptions (pg. 13)--- but that covers most of continuum of canopy layers. This is also true for snags or large down logs.

Comment: "Previous IPNF disclosures have indicated the deficits in old-growth habitat in the Coeur d'Alene River Basin, such that old-growth stands allocated often did not meet Forest Plan criteria. The EA does not disclose if the "allocated" old growth in the affected Old Growth Management Units (OGMUs) actually meets the criteria or if it is merely "potential" old growth. The EA fails to disclose whether or not the "allocated" old growth contains the habitat components necessary to meet Region One old-growth criteria."

Response: From EA 3-12 "allocation of old growth...is based on current and widely accepted science and follows the current Forest Plan old Growth definitions" (Green et al. PF Doc. VEG-20).

EA pg 3-25 to 3-29 discloses all Forest Plan old growth standards are met with this project.

EA pg 3-12 discloses the old growth analysis methodology and findings as well as locations of project files containing: 1) full lists of stands allocated old growth and considered for allocation (the dates of last exam is also found in these lists), 2) maps of allocated old growth, 3) extensive tables of characteristics of those stands, 4) data base summaries of stands considered for allocation, 5) field exam plot sheets and 6) the reasons some stands were not allocated as old growth.

Comment: "The EA ignores the IPNF's own scientific information on the historic range of old growth in the Forest, which indicates that 10% falls below the lowest limit for the historic range of vegetative conditions. Lesica (1996) stated that the Northern Region of the FS's general goal of maintaining 10% of forests as old growth may extirpate some species. This is based on his estimate that 20-50% of low and many mid-elevation forests were in old growth condition prior to European settlement. The adjacent Kootenai National Forest has done an analysis (USDA Forest Service, 1999) that shows 10% to be, quite realistically, not within the historical range."

Response: The forest goal to "provide for a diversity of plant and animal communities" was one of many used to develop the IPNF 1987 Forest Plan. One of the IPNF Forest Plan old growth standards is to maintain at least 10% of

the forested portion of the IPNF as old growth. The Forest Plan does not reference to standards that are to manage within a historic range of vegetative conditions It is possible that the 'adjacent Kootenai National Forest info' that you are referring is part of broader work to will be included in the efforts to develop a combined KNF and IPNF Forest Plan. Your discussion on this issue would be relevant to the development of those Forest Plans- check the internet sites for these forests for the latest Forest Plan development information.

Comment: "The IPNF does not disclose the historic range of old-growth habitat in this project area. The scientific basis for the IPNF's position, namely that maintaining 10% old-growth on the Forest is plenty to maintain population viability of all species needing old-growth habitat, has never been established. The FS does not cite adequate scientific basis—it is merely an arbitrary figure."

Response: The forest goal to "provide for a diversity of plant and animal communities" was one of many used to develop the IPNF 1987 Forest Plan. One of the IPNF Forest Plan old growth standards is to maintain at least 10% of the forested portion of the IPNF as old growth. The Forest Plan does not reference to standards that are to manage within a historic range of vegetative conditions.

The EA, p. 3-25, discloses the estimated range of old growth across the IPNF, "The distribution of old growth forests varies across landscape scales. Historically, an estimated 10-30% of all Coeur d'Alene River Ranger District forests were composed of old growth (PF Doc.VEG-9)." Given that OGMU 321 and 324 (approximately 16,914 forested acres) represents about 0.7% of the forested acres on the IPNF (2,310,000 million acres), and given the natural variability of ecosystem processes that affect landscape structure, estimating the historic range of old growth on this small of an area would be problematic and not very meaningful.

Comment: "Since there is no scientific basis for assuming that 10% old growth is enough for species viability, and since there is no scientific basis to support the IPNF's use of its MIS as adequately "indicating" for other species including the Sensitive wolverine, black-backed woodpecker, fisher, flammulated owl, etc., the proof would be in the monitoring. And nothing else shows the FS has completed or is committed to the monitoring that would insure old-growth species' viability. Unfortunately, region-wide the FS has failed to meet Forest Plan old-growth standards, does not keep accurate old-growth inventories, and has not monitored population trends in response to management activities as required by Forest Plans and NFMA (Juel, 2003)"

Response: The EA, p. 3-25, discloses the estimated range of old growth across the IPNF, "The distribution of old growth forests varies across landscape scales. Historically, an estimated 10-30% of all Coeur d'Alene River Ranger District forests were composed of old growth (PF Doc.VEG-9)." Given that OGMU 321 and 324 (approximately 16,914 forested acres) represents about 0.7% of the forested acres on the IPNF (2,310,000 million acres), and given the natural variability of ecosystem processes that affect landscape structure, estimating the historic range of old growth on this small of an area would be problematic and not very meaningful.

The MIS species for the Coeur d'Alene River Ranger district are the pileated woodpecker, marten and goshawk, and were chosen as indicators of old/mature forests (CR02) Fisher and flammulated owl are both dependent on old/mature forests and are addressed individually as sensitive species.

Monitoring of these species is done through habitat tracking at the forest and regional level. In addition, surveys are done at the regional, forest and district level. For example: In 2007 an effort was initiated by the district to survey for fisher using hair snare devices. Tribal biologists are continuing the effort and expanding the trapping areas (PF Doc. WL-33); In 2005 Region 1 initiated a region-wide goshawk survey to determine goshawk occupancy rates (PF Doc. WL-3); Surveys for goshawk were done within the Deerfoot Resource Area during the planning phase of the project (PF Doc. WL-38); Tomson et al. researched habitat use on the Idaho Panhandle National Forests by marten (PF Doc. WL-144); Goshawk nest occupancy surveys are done periodically on the Idaho Panhandle (Idaho Panhandle National Forests Monitoring Reports, CR 04 through CR 019).

At the forest level habitat models that include habitat type, age class, size class and other attributes are maintained (PF Doc. WL-3, WL-4, WL-5, WL-6, WL-7). At the Regional level, Samson (2005) provides a broad level analysis designed to aid in placing a species in context at the larger population level and addressing NFMA requirements, and is based on numerous peer-reviewed studies. This broad scale analysis concluded that short-term viability of the black-backed woodpecker, northern goshawk, flammulated owl, and pileated woodpecker is not an issue in the Northern Region (wildlife reference WL-67).

Comment: "The IPNF does not disclose the significance of the effects on OG wildlife species' populations of habitat degradation of old growth because of firewood cutting and illegal poaching of trees due to unrestricted access. The IPNF did not present an analysis of the impacts of open roads through old growth in the OGMUs."

Response: The old growth and roads map (PF Doc. VEG-39) displays road location in relation to old growth. Only the old growth stands within the Yellowbanks drainage are bisected with open roads. The remaining old growth stands have no open roads and therefore no fuelwood harvest would occur in these old growth stands. The primary type of illegal access within the Deerfoot Resource area is with ATVs. ATV use is not associated with fuelwood harvest. Despite the fuelwood program along open roads within the Coeur d'Alene River Ranger District, Forest Inventory and Analysis (FIA) data shows that across the Central North Fork Coeur d'Alene landscape area, there are 11 snags per acre that are 10 to 19 inches in diameter, and 2 snags per acre that are 20 inches or greater in diameter (PF Doc. WL-15).

Comment: "The EA also fails to disclose the fragmented condition of old growth in the affected OGMUs as compared to natural. The C'dA River RD's recent Twomile EA states:

> There have been changes over the last 100 years in the size and distribution of patches across the landscape. The mean patch size has decreased since the early 1900's in the Coeur d'Alene Basin and patches have become more linear, with accompanying increases in edge and decreases in core/interior habitats (Geographic Assessment, p. 42; PF Doc. VEG-R10). (EA at 3-9.)

The IPNF does not provide a comparison between the natural historic range and current conditions regarding patch size, edge effect, and interior forest of old growth in the OGMU(s)."

Response: The Forest Plan Old Growth Standards are specific to patch sizes (minimum and preferred sizes) and arrangements. Both the existing condition and the proposed action fully meet all of these standards (disclosed at EA pg 3-27 and 28). In addition, a landscape patch analysis for all structural stages was completed for Deerfoot (EA pg 3-13, 3-19, 3-21 and 3-24). The desired future condition for the Deerfoot Resource Area (PF Doc. VEG-7) does define desired patch sizes for the structural stages (EA pg 3-13, 3-19, 3-21). This desired condition was developed with historic range of variability as one of the items considered.

Comment: "The FIA analysis does not assure that habitat quality regarding block size and spatial distribution of old growth is sufficient for maintaining viable populations of wildlife in the IPNF."

Response: The MIS species for old growth (pileated woodpecker, goshawk and marten) use both mature and old growth forests. For example pileated woodpecker habitat includes both old growth and stands with the average diameter greater than 14" (or mature forest). Map 3-WL-14 on page 3-171 displays the large blocks of pileated woodpecker habitat provided by old growth and mature forests.

Comment: "The EA does not disclose the block sizes considered adequate by the IPNF for old-growth allocation and to meet all OG wildlife species' requirements."

Response: Two patch analyses were completed for Deerfoot- 1) a landscape arrangement analysis for all structural stages (EA pg 3-13, 3-19, 3-21 and 3-24) and 2) the Forest Plan Old Growth Standard 10f required disclosure for the OGMU's in Deerfoot (EA pg 27 and 28).

Old growth MIS species use both old and mature forests, so both structures are included in the wildlife analysis.

Comment: "Since the IPNF provides inadequate analysis regarding the size and quality of habitat blocks needed by the old growth associated wildlife species in the affected OGMUs, the analysis completely fails to disclose the quantitative or qualitative significance of cumulative effects due to past logging in the area and across the Forest."

Response: The affected environment for each old growth associated species includes the effects of past logging. Stands that have been regenerated in the last 125 years are not represented as suitable habitat.

Comment: "The IPNF continues to rely on wildlife habitat models for wildlife species' viability analyses, utilizing the TSMRS or a similar database, of unproven reliability. The IPNF cites no on-the-ground studies verifying the assumptions made with the use of these models. Mander, 1991 notes criticisms of the use of computers by the Forest Service biologists, and discusses the loss of relationship between humans and their wildlife neighbors as computers are utilized more widely by biologists."

Response: Field validation of habitat by the wildlife biologist and surveys for sensitive and MIS are ongoing on the forest (PF Doc. WL-1, WL-8, WL-14, WL-21, WL-24, WL-31, WL-33, WL-38). These include stand visits by wildlife biologist to validate habitat on the ground represent habitat qualities queried in model. In addition, species specific surveys were done for goshawks, flammulated owls and black-backed woodpecker within the resource area.

Comment: "Consistency with the forestwide Forest Plan 10% old growth standard is still far from certain. Forest Plan monitoring reports have failed to disclose the amount of error inherent in the types of survey methods that have been used to allocate what is considered to be "existing old growth."

Response: With the Forest Plan standard to "maintain at least 10 percent of the forested portion of the IPNF as old growth at EA pg 3-26 is stated: "The 2004 Forest Plan Monitoring and Evaluation Report also discusses the use of a multi-scale approach on the IPNF to monitor old growth based on two separate, independent tools:

1) *Forest Inventory and Analysis (FIA) data is used to calculate forest-wide and mid-scale old growth percentages; and*
2) *an IPNF stand map displays all stands allocated for old growth management, with old growth data recorded in the TSMRS database.*

Based on the FIA data summarized in the 2004 Forest Plan Monitoring and Evaluation Report, the IPNF proportion of old growth is 12.85 percent (with 90 percent confidence intervals of 10.55 to 15.27 percent). The FIA old growth estimate was revised in 2006 as part of the Draft Comprehensive Evaluation Report (USDA 2006; PF Doc VEG-R22) which is part of the set of documents for the IPNF Proposed Land Management Plan (see http://www.fs.fed.us/kipz/documents/plmp/index.php). The Comprehensive Evaluation Report document found 11.8 percent of the IPNF was old growth (with a 90 percent confidence interval of 9.5 to 14 percent). As discussed above, the amount of allocated old growth based on the IPNF stand map and recorded in TSMRS is 12.1 percent. Together, these two monitoring tools offer compelling evidence that the IPNF is meeting Forest Plan standards for the amount of old growth to be retained."

Comment: "We believe that the inevitable destruction of old-growth quality due to the 525 feet of new road through old growth (EA at 3-28) is ill-advised simply because of the existing deficit of true old growth in the District."

Response: EA pg 3-27 to 29 discloses full compliance with Forest Plan old growth standards. Old Growth Standard 10g is the applicable Forest Plan standard for roads in allocated old growth (EA pg 3-28). This standard states: Roads should be planned to avoid old growth management stands to maintain unit size criteria. At EA pg 3-28, "Under the Proposed Action Alternative, no permanent road construction would occur in stands allocated for old growth management… the proposed action alternative would construct a temporary road to the helicopter landing for units 23, 24 and 25. This temporary road would go through about 525 feet (about 0.1 miles distance and less than one-third of an acre) of allocated old growth. The proposed route was designed to avoid harvest of large trees in allocated old growth due to the following design feature (see Chapter 2): 'Adjustment to temporary road location for units 23, 24 and 25 will be made so as to minimize the removal of any trees that are 121 inches or greater diameter at breast height.'" From PF Doc. VEG-36, the old growth patch that will be influenced by this temporary road is patch H. At EA pg AG-24 temporary roads are defined as "those roads not intended to be retained for long term management". One third acre represents 525 feet long by a width of 25-30 foot wide (temporary roads are commonly about 14 foot wide). An allocated old growth stand could be expected to have 75 evenly spaced large trees, 24 feet apart with 22 evenly spaced trees 50 feet apart. Understanding the spacing between trees makes the design feature reasonable as a method to avoid impact to the old growth. The temporary road represents about 1% of patch H. This patch currently meets FP Old Growth Stand 10f for patch size criteria and will continue to meet these criteria even if the worst case occurred and one-third acre of old growth was lost. Relevant to this discussion is that given the inherent variability of vegetative arrangement and canopy cover in allocated old growth, one third of an acre will not likely affect patch H meeting FP definitions for continued allocation as old growth.

Comment: "The EA at 3-12 indicates that OGMUs 321 and 324 have less that 10% old growth. Nowhere does the EA disclose the issue of the FS's obligations to maintain diversity in regards to the implications of such a situation, that being that the project area OGMUs contain less than the forestwide 10% and in smaller blocks than are needed to serve as sufficient habitat for wildlife. The situation for many key wildlife species illustrate this problem. The EA fails to disclose the viability implications for the fact that historically, some of these species have historically been found or would be expected to have been found in the project area, yet no individuals can be found."

Response: This question is likely referring to the lack of confirmed presence of the flammulated owl. Flammulated owls have been verified in similar habitats to those queried on other areas of the district. Low populations of this species are more closely tied to the loss of ponderosa pine habitats and not OGMUs with less than 10% old growth (page 3-WL-149).

Comment: "Nobody can logically argue that the project area was not inhabited by such species, being entirely encompassed within historic habitat ranges, and the EA does not dispute this. A fully adequate cumulative effects analysis would have disclosed that heavy handed past management activities have caused the localized extirpation of some species from this area. The EA indicates, that past activities that have occurred within the project area include logging, fire suppression, road development, and recreation."

Response: It is not clear what species the writer is referring to. Old growth MIS, northern goshawk and pileated woodpecker, are both present in the Deerfoot Resource Area. Marten are likely not present because the area is low elevation and does not provide large blocks of spruce fir habitat. This would not have been different in the past, the Deerfoot Resource Area would have still been a low elevation area and would not have provided habitat for the marten.

Comment: "The Region 1 black-backed woodpecker assessment (Hillis et al., 2002) notes that the black-backed woodpecker depends upon the very forest that the premises of this project abhor…"

Response: The Deerfoot Project is not a salvage harvest. Some insect and disease infested trees would be harvested, but that is not the focus of the project. PF Doc. WL-31 displays the incidence of insect and disease infested trees both in out outside the Deerfoot Resource Area.

Comment: "This project is part of the IPNF's fire suppression policy…"

Response: Hutto's 1995 comment is referring to the salvage of burned forests. This project does not salvage or harvest burned trees. The Coeur d'Alene River Ranger District has retained burned forest on the landscape to meet the needs of the black-backed woodpecker and other species that forage on burned trees (page 3-WL-153). The appropriate management response to wildland fires is guided by the IPNF Forest Plan and the IPNF Fire Management Plan. These documents provide guidance for fire response, which is outside the scope of this project.

Comment: "This recommendation is significant in that it recognizes that there is still substantial risk to the viability of black-backed woodpeckers following recent large wildland fires in this region. In subsequent years, there have been fires in the Northern Rockies but not a substantial as in 2000; and in any case the FS has yet to consider the viability of the black-backed woodpecker in the context of this landscape scale."

Response: Bonn et al. (2007) concluded that habitat for the black-backed woodpecker is increasing in the region due to insect outbreaks, fire and a decrease in the salvage of dead trees (PF Doc. WL-R148)

Comment: "The FS has yet to design a consistent, workable, scientifically defensible strategy to ensure viable populations of the black-backed woodpeckers. The cumulative impacts of the IPNF's ongoing fire suppression policy are also not adequately considered."

Response: Bonn et al. (2007) concluded that habitat for the black-backed woodpecker is increasing in the region due to insect outbreaks, fire and a decrease in the salvage of dead trees (PF Doc. WL-R148). A conservation assessment of the black-backed woodpecker found habitat to be abundant and well-distributed across the northern region (Region 1) and concluded that viability for the species will be maintained for the next 100 years (PF Doc. WL-R139). More than 30,000 acres of black-backed woodpecker habitat is maintained in the Northern Rockies Ecological Province (Bonn et al. 2007 p. 24, p. 13)

Comment: "There is considerable scientific controversy over the adequacies of the IPNF's snag standards and guidelines, recognized by the IPNF itself. The IPNF (USDA Forest Service, 2000c) recently called for updated snag guidelines: "Apply snag and down woody material guidelines from the Upper Columbia River Basin Assessment to improve marten habitat" (p. 39). The Northern Region Snag protocol has not been subject to independent scientific peer review and validation from post-implementation monitoring. Nor has it been the subject of a contextually proper NEPA and NFMA review as a forest plan amendment."

Response: The Northern Region Snag Protocol exceeds snag retention recommendations found in Bull et al., 1997, Trees & Logs Important to Wildlife in the Columbia River Basin, PNW-GTR-391. Forest Inventory and Analysis data (FIA) shows that across the Central North Fork Coeur d'Alene landscape area, there are 11 snags per acre that are 10 to 19 inches in diameter, and 2 snags per acre that are 20 inches or greater in diameter (PF Doc. WL-15).

Comment: "The EA fails to disclose data from the proper cumulative effects analysis area surveys for snags and replacements in old logging units. They do not disclose how many of the old logging units in this area are deficient in snags, which are a vital and necessary component of old-growth species' habitat."

Response: Forest Inventory and Analysis data (FIA) shows that across the Central North Fork Coeur d'Alene landscape area, there are 11 snags per acre that are 10 to 19 inches in diameter, and 2 snags per acre that are 20 inches or greater in diameter (PF Doc. WL-15).

Comment: "The IPNF provides inadequate management strategies to insure viability of the pine marten…The IPNF has otherwise recognized the need for updated guidelines for the pine marten: "Apply snag and down woody material guidelines from the Upper Columbia River Basin Assessment to improve marten habitat" (USDA Forest Service 2000c, p. 39)."

Response: On page 3-WL-180 it is stated, since the Deerfoot Resource Area is inherently low in marten habitat the implementation of this alternative would result in minimal impacts to the marten. None of the marten habitat identified would be altered by harvest activities (PF Doc. WL-25 and WL-26).

Comment: "The IPNF has consistently ignored a Region 1 guidance document for old-growth species' habitat management (USDA Forest Service, 1990)"

Response: The MIS species for the Coeur d'Alene River Ranger district are the pileated woodpecker, marten and goshawk, and were chosen as indicators of old/mature forests (CR02) Fisher and flammulated owl are both dependent on old/mature forests and are addressed individually as sensitive species. Monitoring of these species is done through habitat tracking at the forest and regional level. In addition, surveys are done at the regional, forest and district level. For example: In 2007 an effort was initiated by the district to survey for fisher using hair snare devices. Tribal biologists are continuing the effort and expanding the trapping areas (PF Doc. WL-33); In 2005 Region 1 initiated a region-wide goshawk survey to determine goshawk occupancy rates (PF Doc. WL-3); Surveys for goshawk were done within the Deerfoot Resource Area during the planning phase of the project (PF Doc. WL-38); Tomson et al. researched habitat use on the Idaho Panhandle National Forests by marten (PF Doc. WL-144); Goshawk nest occupancy surveys are done periodically on the Idaho Panhandle (Idaho Panhandle National Forests Monitoring Reports, CR 04 through CR 019).

At the forest level habitat models that include habitat type, age class, size class and other attributes are maintained (PF Doc. WL-3, WL-4, WL-5, WL-6, and WL-7). At the Regional level, Samson (2005) provides a broad level analysis designed to aid in placing a species in context at the larger population level and addressing NFMA requirements, and is based on numerous peer-reviewed studies. This broad scale analysis concluded that short-term viability of the black-backed woodpecker, northern goshawk, flammulated owl, and pileated woodpecker is not an issue in the Northern Region (wildlife reference WL-67).

Comment: "The IPNF's decision to remove the northern goshawk from its Sensitive species list was based upon a report (Samson, 2005) that has not been subject to scientific peer review and fails to meet the best available science standard. That report and the EA ignore a lot of newer scientific information on goshawks and other species."

Response: The decision to remove the northern goshawk from the sensitive species list was not made by the IPNF. The decision was made at the Regional level (PF doc. WL-23). This decision was peer reviewed by Forest Service biologists and goshawk experts (Ibid).

Comment: "The "Habitat Model Validation" (EA at 3-136) is not wildlife habitat validation methodology at all. It merely attempts to validate the information from timber stand databases—information which the IPNF has admitted is not appropriate for use in wildlife habitat modeling (USDA Forest Service, 2000c). True validation would be species' presence and successful reproduction in areas the models presume it would be."

Response: Field verification of habitat model insures that the habitat modeled has the same characteristics as the habitat for each species is described in the literature. Surveys have been done across the district to verify the presence of fisher, marten, black-backed woodpecker, black swift, western toads, Coeur d'Alene salamander, harlequin duck, bald eagles, pileated woodpecker, goshawk, bald eagle and flammulated owl. The charge of the Forest Service is to manage the habitat. Idaho Fish and Game is the responsible agency to manage for populations.

Comment: "The analysis of impacts on goshawks seems to reflect a poor understanding of goshawk habitat requirements."

Response: The writer appears to be confusing goshawk nest stand with foraging area. A goshawk nest stand is indeed old/mature structure forest. However, to meet the needs of the goshawk these stands need to be only 30 acres in size. It is recommended that within the large home range of the goshawk that there are three 30 acre nest stands and three 30 acre replacement nest stands for a total of 180 acres (EA page 3-175). A 2005 survey of nesting goshawks determined with a 95 percent confidence level that 30 to 50 percent of forested lands in roaded areas of the Forest Service's Northern Region are occupied by goshawks (PF Doc. WL-14).

Comment: "The issue of fragmentation should have been more thoroughly considered with respect to goshawks."

Response: Crocker-Bedford continues in his article to state that declines in goshawks due to logging may not occur where abundant prey is present. In the 2005 survey of nesting goshawks in the Northern Region, over 50 percent of the Primary Sampling Units (PSUs) on the Coeur d'Alene River Ranger District resulted in goshawk detection (PF Doc. WL-3, page 6) indicating that habitat and occupied nests for the goshawk are abundant on the district.

Comment: "The IPNF does not adequately consider cumulative effects on upland habitat for boreal toads. This does not make sense, since such small populations that are likely to persist are especially susceptible to fragmentation and extirpation due to isolation of smaller populations. See Maxell, 2000. In fact, the IPNF has no genuine analysis of cumulative impacts of logging activities on boreal toads at all."

Response: Past logging effects in incorporated into the affected environment for each species. Boreal toad surveys were done several years in a row in the ponds located in the Deerfoot Resource Area, no tadpoles of the boreal toad were found. Boreal toad surveys on the Coeur d'Alene River Ranger District have located them at higher elevations than the limited wetlands found within the Deerfoot Resource Area.

Comment: "The preference for large diameter of nesting trees for the pileated woodpecker is downplayed in the analysis, probably due to management-induced cumulative impacts which have depleted such habitat components. McClelland and McClelland (1999) found, in their study in northwest Montana, that the average nest tree was 73 cm. (almost 29") dbh. Effectively, the IPNF provides inadequate commitment to leaving specific numbers and sizes of largest trees favored by this MIS."

Response: We disagree with the writer that the preference for large diameter nesting tress for the pileated woodpecker was downplayed in the analysis. On EA page 3-170 it is clearly stated that pileated woodpecker habitat was evaluated based on two things: old growth and stands where the average diameter is greater than 14 inches.

Comment: "Since the FS is not meeting species viability requirements as discussed elsewhere in these comments, it is critical for the FS to take steps to develop a multiple species conservation strategy for the IPNF."

Response: The pileated woodpecker is a MIS species and is not considered sensitive, at this time viability is not an issue. Samson 2005 (PF Doc. WL-R139) concluded that habitat for the pileated woodpecker is abundant and well distributed across the Northern Region.

Comment: "In regards to logging old growth:..."

Response: No harvesting of allocated old growth is proposed in this project (EA page 3-26).

Comment: "Although admitting that snags may be cut down for safety reasons during logging operations (due to OSHA regulations), the EA does not consider in any quantitative fashion the level of loss of standing snags, or resultant impacts to wildlife. The IPNF fails to disclose how much snag loss would be expected because of safety

concerns and also skyline corridors and other methods of log removal—the loss could be more significant that disclosed, because the IPNF doesn't provide any idea the degree of snag loss due to these concerns."

Response: The EA acknowledge the loss of some snags from logging operations. However, design features are provided to minimize these losses (see EA Chapter 2, Design Features). Snag retention objectives are accounted for on a treatment level scale, not managed on a per acre basis. It would be extremely difficult to predict how much snag loss is anticipated, especially when the natural density and distribution varies across the landscape, and perceived safety risk will vary among operators. Even though we cannot predict the number of snags lost during operations for safety, we are bound by law to abide by OSHA regulations. The retention objectives for this project exceed the Forest Plan's standards/guidelines for managing snag habitat.

Comment: "The FS has still not sufficiently dealt with the issue of fragmentation, road effects, and past logging on old-growth species' habitat, as discussed above. The IPNF fails to disclose the degree to which edge effects on old growth species' habitat exist, and how much total edge effect would be increased, by the Selected alternative…These effects would reduce the ability to provide for the habitat needs of old-growth associated species for decades to come following implementation of the Deerfoot Project and other activities in the cumulative effects analysis area."

Response: The effects of fragmentation on forest wildlife is discussed on EA page 3-145. Fragmentation is also considered in the discussion for the flammulated owl EA page 3-149. The effects of forest edge is discussed in the analysis for non-game species on EA pages 3-187 & 3-188. The habitat needs for old-growth associated species are being met, which is verified by 50% goshawk occupancy of Primary Sampling Units (PSUs) on the Coeur d'Alene River Ranger District (PF Doc. WL-3). To clarify, there was no selected alternative in the EA.

Comment: "The continued fragmentation of the IPNF is a major ongoing concern…USDA Forest Service, 2004a further discusses the fragmentation effects on old-growth habitat, effects that would be exacerbated by the Deerfoot timber sale."

Response: The effects of fragmentation on forest wildlife is discussed on EA page 3-145. Fragmentation is also considered in the discussion for the flammulated owl EA page 3-149. The effects of forest edge is discussed in the analysis for non-game species on EA pages 3-187 & 3-188.

Comment: "The IPNF ignores the fact that some types of old growth are maintained by low intensity disturbances (Arno, Smith & Krebs 1997; Habeck 1990; Habeck 1988)." The FS's own studies disclose that mixed severity fires are also key to the development of some old-growth types (USDA Forest Service, 1998-1999). Thus, the development of mature forests to old growth is also being retarded by logging and fire suppression. The issue of old-growth mixed conifer—a type that contains a significant component of Western larch—is being ignored. USDA Forest Service (1998-1999) identifies Western larch as a "forest type at risk" with "36% loss" within the Columbia River Basin. Causes listed are "fire exclusion and past harvest." Logically then, the value for old-growth wildlife species is enhanced by fires, but the FS wants to suppress fire via its management."

Response: The proposed action does not include timber harvest in stands allocated as old growth (EA pg 3-14); there would be 512 acres of prescribed burning within allocated old growth to reduce fuels without changing old growth allocation status (see EA 2-9, 3-12, 3-16, 3-20 and 3-27). From EA 3-16, "The allocated old growth proposed for underburning represents dry Douglas-fir habitat types. The proposed low-intensity underburning is not expected to change cover type, structural stage or old growth allocation." Your comment seems out of context of the Deerfoot proposed action, which is of a combination of low intensity burns (in about 14% of the resource area) and regeneration harvests followed by burning and establishment of a diversity of desired trees (including western larch) (in about 7% of the resource area) (EA pg 3-16).

Comment: "If the FS were study the Northern Region Overview, connect the dots and disclosed the obvious conclusions, it would be clear that the proposed logging to prevent the effects of "catastrophic" fire areas is severely detrimental to cavity nesting species, including the pileated woodpecker. This is an indicator for the kind of forest the FS proposes to avoid allowing to develop via prescribed natural fire."

Response: A conservation assessment of the pileated woodpecker found habitat to be abundant and well-distributed across the northern region (Region 1) and concluded that viability for the species will be maintained for the next 100 years (PF Doc. WL-R139). In addition, Forest Inventory and Analysis (FIA) data show that snags are found across the Central North Fork Coeur D'Alene landscape area at the rate of 11 snags per acre in the 10-19 inch diameter class and 2 snags per acre that are 20 inches in diameter or greater (PF Doc. WL-15). Prescribed natural fire, or more

appropriately, wildland fire use for resource benefits is guided by the Forest Plan and the IPNF Fire Management Plan, and is outside the scope of this project.

Comment: "The IPNF falls far short of analyzing and disclosing these cumulative effects on wildlife species' viability, caused by the current conditions and by the proposed project."

Response: The cumulative effects of past logging and road construction are incorporated into the affected environment for each species. The cumulative effects of ongoing and future actions are described in the cumulative effects section for each species.

Comment: "The EA does not recognize the differing issues of soil disturbance and soil productivity."

Response: Discussions on soil productivity as related to detrimental disturbances are found on EA pages ,2-7 (Issues and Concerns), 2-13 and 2-14 (Features designed to protect soils and PF Doc.Soil-21), 3-109 (Forest Plan objectives and Standards and Regional Soil Quality Standards) and under Direct and Indirect Effects to Soil under the Proposed-Action Alternative on page 3-121.

All discussions on soil disturbance are based on meeting both the Forest Plan and Regional Soil Quality Standards in maintaining soil productivity.

Comment: "The EA fails to support its conclusions that areas of "slight" soil disturbance can be completely ignored in discussions about cumulative soil damage and accountings of management-induced reductions in soil productivity. It also completely discounts the losses in soil productivity in "activity areas" when the areal extent happens to fall below an arbitrary level of 15%."

Response: Cumulative effects for the soil resource are based on meeting:

1. The IPNF Forest Plan Standards which states that management activities on Forest lands will not significantly impair the long-term productivity of the soil resource through the use of Best Management Practices. Soil-disturbing management practices will strive to maintain at least 80% of the activity in a condition of acceptable productivity potential by minimizing detrimental effects of compaction, displacement, and puddling or severely burned and maintain sufficient large woody debris for soil productivity.(Forest Plan, pp. II-32 and II-33, PF Doc. Soil-002)
2. The Regional Soil Quality (R-1 Supplement 2500-99-1; PF Doc. Soil-R-58) as revised in November of 1999. This direction recommends maintaining 85% of an activity area 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; PF Doc. Soil-R-48).

Chapter 3 describes the anticipated cumulative impacts of the direct and indirect effects added to other past, present and reasonably foreseeable future activities. Effects can occur in site-specific locations, or across a broader landscape area; thus they have a spatial scale. They can also occur over a period of time; thus having a temporal scale.

Spatial Scale - the appropriate scale, or geographic bounds, for cumulative effects analysis relates to an area that would be affected by the proposed action or reasonable alternative. This area is referred to as the cumulative effects analysis area and may vary between resources. The task of selecting the geographical boundaries involves several factors, including the scope of the project considered and the features of the land. If one acre of land receives soil impacts and a second management activity is planned for that same site, then soil cumulative effects are possible. One exception would be the evaluation of slope stability, which requires a closer look at the adjacent terrain outside of activity areas to determine if cumulative effects from past management activities and roads are adverse. However, evaluation of cumulative effects to soil productivity does not require an integrated "watershed-type" assessment since that is not considered an appropriate geographic area. This is because assessment of soil quality within too large an area can mask or "dilute" site specific effects.

At the unit scale, activities that cause soil impacts may have cumulative effects – i.e. soil porosity, water holding capacity, aeration, long-term productivity etc. – with repeated entries. Cumulative effects due to physical, chemical, and biological impacts often increase with the scope of past and proposed activities (Reid 1998).

Temporal Scale - the temporal scale is dependent on the specific issue being addressed with no one scale being appropriate for all issues. The analysis may need to evaluate the effects of proposed management over all seasons for several days, years, decades, or perhaps centuries. This is complicated by data constraints that require monitoring to detect change – though data are often insufficient to identify even trends or trajectories of change until the impact is large enough or has been occurring for some time. Furthermore, there is often a lag between some action and its observed effect. This analysis strives toward an integrated approach to soil processes and function to project future trends in response to proposed management options to the best of abilities. For the purpose of this evaluation, short-term effects are defined as those that occur approximately within 1 to 10 years following proposed management activities. Long-term effects are defined as those that occur approximately within 10 to 20 years, or more, following proposed management activities.

Generally, detrimental effects on soils are not permanent and depend primarily on soil texture, parent material, aspect, and level of compaction. Recovery time is on the average 30 to 70 years as second growth timber becomes established around disturbed areas (Dykstra and Curran 2002; PF Doc. Soils-R-12; and Froehlich et al. 1983 and 1985 PF Doc. Soil-R-16). However, soil displacement that mixes or moves the volcanic ash surface layer and reduces soil moisture holding capacity and productivity is essentially irreversible

---

Comment: "The use of such terms as "lethal wildfire" (EA at 3-120) reveals a severe bias in this analysis."

Response: The use of the term "lethal wildfire" does not reveal bias, it is used as a descriptive term and is defined on page 3-40 of the EA: "***Lethal fires*** *- fires that kill 90% or more of the dominant tree canopy. These are often called "stand-replacing" fires and they often burn with high severity. They are commonly crown fires. In general lethal fires have long return intervals (140-250+ years apart), but affect large areas when they do occur."*

Comment: "Following from such unreasonable bias is the premise that the no-action alternative would increase noxious weeds (3-121) whereas the analysis of the action alternative doesn't even include the word "weed." How ridiculous is that? Soil disturbance from logging activities in the project area has been widespread. NEPA analyses for noxious weeds such as the one done for this District admit that this facilitates the spread of noxious weeds. Noxious weeds, in turn, result in losses of land and soil productivity—which the Deerfoot EA's soil analysis completely ignores."

Response: In E.A. Chapter 2, page 2-12 the section "Features Designed to Reduce the Spread of Noxious Weeds" outlines practices that would reduce the introduction and spread of noxious weeds during project implementation. Appendix E, page E-1, section C. further describes how features of the proposed action would minimize, but not completely eliminate the risk of weed spread due to project-related activities. The Project File for Noxious Weeds contains supporting information relating to analysis of potential effects of noxious weeds.

The discussion on page 3-121 under Direct and Indirect Effects to Soils under the No Action Alternative states; The introduction of weeds and unwanted flora following a fire could lead to higher competition between less desirable and native vegetation. This relates to the potential of a severe fire occurring under the existing ground conditions and the potential of weed infestation if that were to occur. No where is it discussed that weeds in general would be increased under the No Action Alternative.

Comment: "The EA does not disclose how the productivity of the land has been affected in the project area and forest-wide due to noxious weed infestations, and how that situation is expected to change in the coming years and decades."

Response: Effects to productivity on a Forest-wide scale are outside the scope of this document. Land productivity in the Deerfoot Resource Area has not been adversely affected by noxious weeds (refer to the Noxious Weeds discussion in the E.A., Appendix E. Most noxious weed infestations on the Coeur d'Alene River Ranger District border road rights-of-way. Sometimes these infestations spread into adjacent meadows. The ranger district performs noxious weed surveys annually and treats approximately 1,000 acres of weed infestations each year. In E.A. Chapter 2 "Features Designed to Reduce the Spread of Noxious Weeds" outlines practices that would reduce the introduction and spread of noxious weeds during project implementation.

The Soils portion of the EA, Ch. 3 gives a detailed discussion of productivity and how the IPNF Forest Plan (IPNF Forest Plan, p. II-32) , with amendments provides for protection of soil resources with forest management activities.

Comment: "The EA proposes mitigation that is to somehow justify or make up for project-induced or cumulative past soil damage, while ignoring the long-term soil productivity losses on these sites. For example the final soil mitigation feature under F. on page 2-14, the thing being forgotten is proving that soil productivity would actually be restored to any level resembling natural."

Response: The design feature listed on page 2-14 is not a mitigation to justify or make up for any past cumulative soil damage; it is, however, a response to reduce soil impacts to productivity associated with the construction of temporary roads. This feature stockpiles the topsoil for later distribution when the temporary roads are decommissioned.

Comment: "The EA's discussions of the need for and benefits of its soil restoration and mitigation leads us to wonder: if soil quality restoration is relevant for proposed treatment units, why not for all the other units in the project area watersheds, damaged by past management? Clearly, the public is expected to accept a management regime that features soil restoration in detrimentally disturbed units **only** when there's another timber sale."

Response: Except for the design feature for stockpiling topsoil to be redistributed when the temporary roads are decommissioned, no discussion exists related to the need for and benefits of soil restoration. The design features listed on pages 2-13 and 2-14 are incorporated into the timber sale package to reduce the impacts to soils and soil productivity.

Comment: "…These impacts are not limited to the proposed cutting units. This critical problem associated with soils disturbance again emphasizes the need to actually *measure* the effects of timber harvest on the ability of logged forests to regenerate, as it may well turn out that simply establishing thresholds for disturbance of soils in proposed cutting units is not enough to insure against irreversible long-term losses of soil productivity.

Response: The EA is in compliance with the regulatory framework which provides direction for protecting a site's inherent capacity to grow vegetation from the following sources; The Multiple Use-Sustained Yield Act of 1960, The National Forest Management Act of 1976 (NFMA), The Forest Plan of 1987 and the Regional Soil Quality Standards. This established regulatory framework provides guidance in maintaining the long- term soil productivity. Manual direction for both the Regional and Forest Plan Standards recommend maintaining 85% and 80% respectively in acceptable productivity potential with respect to detrimental disturbance. The only case in which loss of soil productivity is considered irretrievable is roads and landings which are classified on the Forest Transportation system as dedicated lands. To reduce the impacts to soils and soil productivity, the proposed Action Alternative utilizes the Soil and Conservation practices (PF Doc. Soil-R-72) and project specific Best Management Practices in Appendix A. The techniques and their effectiveness are documented in several publications (Seyedbagheri 1996, PF Doc. Soil-R-51; Lynch and Corbett 1989 and 1990, PF Doc. Soil-R-34 and PF Doc. Soil –R-33; Idaho DEQ 2001, PF Doc. Soil –R-28. The BMP's and design features listed on page 2-13 and 2-14 will be implemented to ensure that activities are consistent with both the Forest Plan and Regional guidelines in terms of soil compaction, displacement and nutrient retention.

Comment: "Nothing in the EA's watershed analysis section specifically addresses the hydrological implications of the soil damage caused by cumulative past management nor Deerfoot project-induced damage."

Response: As described in the EA on page 3-114, landtypes that exhibit moderate to high mass failure potential are located primarily on dissected stream breaklands, alluvial fans, moderate side slopes, incised drainages, their toe slopes, and stream headlands. Removal of forest canopy and cover from either clearcutting or wildland fire increases landslide occurrence (Gray and Megahan 1981, PF Doc. SOIL-R-22; Megahan et al. 1978, PF Doc. SOIL-R-38). This is primarily due to root decay, soil disturbance, increased snow accumulation and altered melting rates, and **soil water** increases from reduced interception and transpiration.

On page 3-118, the EA discussion discloses that compaction, displacement, rutting, and severe burning can affect the soils physical, chemical, and biological properties, which indirectly can affect the growth and health of trees and other plants. Compaction reduces soil permeability and **infiltration,** which can cause soil erosion. Displacement reduces plant growth where topsoil and organic matter are removed. Severely burned soils can become hydrophobic (water repellent) and lead to increased erosion, runoff, and/or reduced productivity.

Further under the effects analysis on page 3-126 concerning roads; Under the Proposed Action, the construction of roads would produce detrimental effects to site productivity through compaction and displacement. Once sale activity ends, temporary roads would be decommissioned, which would reduce compaction of the soil and return a portion of the topsoil to the surface which helps restore soil productivity and decreases hydrologic effects from road surface

runoff. (See PF SOIL-21, Features designed to protect soil and site productivity for temporary road construction and decompaction).

Furthermore, the WATSED model analysis predictions for sediment yield take into account the cumulative sediment yield for planned Proposed Action alternative activities; these include new road construction and types of yarding systems for timber harvest. To determine the runoff increases for roads, WATSED uses an equation that is based on reductions of infiltration due to roads and increased drainage efficiency (Patten 1989). This information was described as a modeled sediment yield value (percent) for each watershed in (3.4.3. Environmental Consequences to Aquatic Resources – Proposed Action) the Deerfoot EA analysis area for the Proposed Action alternative (see Table 3-AQ-8; Pages 3-96:99).

Comment: "In fact, not one of these cumulative effects sections in the EA could arguably be considered quantitative or analytical. The cumulative effects analysis is once again wholly inadequate and seems designed to facilitate the agency never being accountable for mismanagement of this landscape. The EA's cumulative effects analyses of past activities is mostly a listing of past actions and fails to provide the "hard look" on the various resource conditions mentioned in the EA."

Response: The analyses of cumulative effects are based on the best information available to us at this time. Cumulative effects are caused by the aggregate of past, present and reasonably foreseeable future actions, spread over both geography and time (some actions may impact some resources for a longer period of time than others). Cumulative effects on a given resource, ecosystem, and human community are rarely aligned with political or administrative boundaries, and therefore the geographic analysis area varies by resource. For example the analysis of cumulative effects to forest vegetation included lands within the Deerfoot Resource Area boundary (EA, p. 3-22), while the cumulative effects analysis area for the aquatics resource included six watersheds that flow into Hayden Lake (EA, p. 3-71). The analyses are further complicated by the fact that, while specific information usually exists related to past and present actions, analyses of reasonably foreseeable actions are based on the best data available at the time. Information about past actions in the Deerfoot Resource Area is provided in Appendix C; past actions specific to each cumulative effects analysis area are described in the respective resource analysis in Chapter 3; with supporting information provided in the Project Files as noted. The effects of past activities are represented by and discussed in the discussion of existing resource conditions (EA, p. 2-4). Ongoing activities are identified and described in Chapter 2 (p. 2-4), as are reasonably foreseeable activities (p. 2-5), with disclosure of effects provided in the resource discussions in Chapter 3.

As stated by the Council on Environmental Quality (January 1997, Considering Cumulative Effects Under the National Environmental Policy Act, p.vii), the continuing challenge of cumulative effects analysis is to focus on important cumulative issues, recognizing that a better decision, rather than a perfect cumulative effects analysis, is the goal of NEPA and environmental analysis.

Comment: "Yet the Deerfoot EA completely belies the promises made in the Forest Plan, by donning blinders as to the amount of soil productivity damage the project area watersheds have sustained as a result of FS management. How can the public be assured that these watersheds have been managed in accordance with principles of sustained yield, if the agency never bothers to monitor the cumulative reductions in soil productivity—therefore potential losses of timber yield over future rotations—that are absolutely vital to the re-growth of the forest following logging?"

Response: The Deerfoot EA follows both the Forest Plan and Regional direction in defining the "activity area" as the area used for direct, indirect and cumulative effects. Within the "activity areas" all past, proposed and foreseeable activities are analyzed for ground disturbing activities such as timber harvest, both classified and non-classified and temporary roads, and helicopter and tractor yarded landings. To expand the cumulative effects area to the watershed scale would mask the effects of past disturbance. Furthermore as stated in the Forest Plan on page I-1; (The Forest Plan guides all natural resource management activities and establishes management standards), and on pages II-32 and II-33 (Soil-disturbing activities on Forest lands will strive to maintain at least 80% of the area in as acceptable productivity potential). The Forest Plan does not state promises, it sets goals and objectives.

Past monitoring reports from 2000 to 2004 are currently available online on the IPNF web site at http://www.fs.fed.us/ipnf/eco/manage/forestplan/index.html#fpmon and for 2005 through 2007 in the near future. Draft soil monitoring for the year 2005 through 2007 are found in the soils project files (PF Doc. Soil-R-70 and PF Doc. Soil-R-71). The same reports plus those for the years of 1998 and 1999 are also enclosed in the Deerfoot reference section. All include annual Forest Plan soil monitoring for various trends from numerous grazing, timber, fire, and rehab projects.

Comment: "It is not clear at all that the FS actually made proper estimates of existing detrimental disturbance based on scientifically sound methodology, using experts adequately qualified to assess the complexities of soil qualities and cumulative impacts, which could accurately reflect existing soil productivity limitations and damage, plus Deerfoot project soil impacts."

Response: Each proposed harvest unit was field reviewed in 2005/2006 by the Districts Soils Specialist to verify existing soil conditions by conducting the "Onsite Assessment Method" outlined in Niehoff (2002; PF Doc. Soil-R-44) and documented soil assessment(PF Doc. Soil-1). Further Methodology used in the soil productivity analysis is listed on page 3-110.

Comment: "Unfortunately, the scientific adequacy of the FS's methodology for maintaining soil productivity on has never been demonstrated. The FS's determination that it may permanently damage the soil an arbitrarily determined percentage of an activity area and still meet NMFA and planning regulations is doubtful logically and scientifically. There is no scientific basis for adopting these percents as a numerical limit—neither generally nor for the site-specific geology and soil conditions found in the project area."

Response: As stated on page 3-97, Section 6 of the NFMA charges the Secretary of Agriculture with ensuring research and continuous monitoring of each management system to safeguard the land's productivity. To comply with requirements, the Chief of the Forest Service charged each Forest Service Region to develop soil quality standards for detecting soil disturbances indicating a loss in long-term productive potential. In an effort to imply the most stringent standard, both Forest Plan and Regional Standards were incorporated into the analysis of the project. The Regional Soil Quality Standards (R-1 Supplement 2500-99-1; PF Doc. SOIL-R-58) were revised in November 1999. Manual direction recommends maintaining 85% of an activity area's soil 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; PF Doc. SOIL-R-48). In areas where more than 15 percent detrimental soil conditions exists from prior activities, the cumulative detrimental effects from project implementation and restoration should not exceed the conditions prior to the planned activity and should move toward a net improvement in soil quality.

As stated previously; Soils may be classified as detrimental disturbed, however detrimentally disturbed does not mean permanently damaged. Generally, detrimental effects on soils are not permanent and depend primarily on soil texture, parent material, aspect, and level of compaction. Recovery time is on the average 30 to 70 years as second growth timber becomes established around disturbed areas (Dykstra and Curran 2002; PF Doc. Soils-R-12 and Froehlich et al. 1983 and 1985 Froehlich et al. 1983 and 1985 PF Doc. Soil-R-16). However, soil displacement that mixes or moves the volcanic ash surface layer and reduces soil moisture holding capacity and productivity is essentially irreversible.

Comment: "The IPNF fails to adequately quantify soil productivity reductions and losses in project area/cumulative effects analysis area watersheds because it ignores the areas that are below the historic range of fine and coarse woody debris, and fails to adequately quantify detrimental damage in some previously logged areas. The IPNF assumes that soil damage outside of proposed "activity areas" and temporary roads can simply be written off or ignored."

Response: As part of the monitoring for past disturbance, coarse woody debris (CWD) sampling was conducted using the "On site method" outlined in Niehoff (2002; PF Doc. Soil-R-44) and documented soil assessment (PF Doc. Soil-1). The results of this monitoring data was compared to those recommended by (Graham 1994, PF Doc. Soil-R-21) and used to determine CWD recommendations for each of the proposed activity areas. I am not aware of any studies that have documented the historic range of fine woody debris which would be highly variable and would be directly related to the historic fire regime.

All activity areas proposed under the Deerfoot EA have been surveyed for previous disturbances. The EA follows Regional and Forest Plan direction in defining the "activity area" as the area used for direct, indirect and cumulative effects. Within the "activity areas" all past, proposed and foreseeable activities are analyzed for ground disturbing activities such as timber harvest, both classified and non-classified and temporary roads, and helicopter and tractor yarded landings. To expand the cumulative effects area to the watershed scale would mask 9(dilute) the effects of past disturbance. Cumulative effects to soils need to overlap in time and space and so are not expected outside the units (pages 3-127 to 3-128).

Comment: "We object to the lack of any meaningful limitation, on a watershed basis, of the amount of soils so damaged permanently or for the long-term. Again, the SQS's failures are revealed by allowing permanent reductions in soil productivity over arbitrarily-decided levels inside "activity areas" and unlimited amounts of areal extent damage due to roads, landings, etc. outside activity areas. Essentially, the FS's management scheme is committing vast areas of the IPNF to permanent losses or reductions in soil productivity, without explaining or quantifying the resultant losses in timber yield, ecological dysfunction due to other vegetative alternations, and disruptions in hydrologic functioning. This does not satisfy NFMA's requirements to maintain soil productivity, and reveals an agency rooted firmly within the Department of Agriculture but unable to maintain the basis for all sustainable agriculture—soil productivity."

Response: Regional direction states that the analysis area for soils and Soil Quality Standards (SQSs) is the individual activity unit, also called activity area (2554.03-R1, Suppl. 2500-99-1; R1 – SQS: PF Doc. SOIL-R-58). The activity area is considered an appropriate geographic unit for assessing soil environmental effects because soil productivity is a site-specific attribute of the land and is not dependent on the productivity of an adjacent area. Cumulative effects to soils need to overlap in time and space and so are not expected outside the proposed units (see pages 2-127 through 3-128 of the Deerfoot EA). Within the "activity areas" all past, proposed and foreseeable activities are analyzed for ground disturbing activities such as timber harvest, both classified and non-classified and temporary roads, and helicopter and tractor yarded landings. To expand the cumulative effects area to the watershed scale would mask, (dilute) the effects of past disturbance. As stated above, soils may be classified as detrimental disturbed, however detrimentally disturbed does not mean permanently damaged. Generally, detrimental effects on soils are not permanent and depend primarily on soil texture, parent material, aspect, and level of compaction. Recovery time is on the average 30 to 70 years as second growth timber becomes established around disturbed areas (Dykstra and Curran 2002; and Froehlich et al. 1983 and 1985). However, soil displacement that mixes or moves the volcanic ash surface layer and reduces soil moisture holding capacity and productivity is essentially irreversible.

Comment: "We disagree with the EA's assumption that use of BMPs will result in meeting soil quality standards and maintaining soil productivity, since no monitoring has ever occurred on the IPNF to validate such assumptions."

Response: Soil disturbance is limited on both a unit and landscape basis through the use of mitigations and Best Management Practices (BMPs). One of the primary means of reducing the aerial extent of soil disturbance is through the use of designated skid trails and carefully matching the logging system to the ground conditions. For example, to the greatest extent possible, the Forest aligns new skid trails on top of existing skid trails. Exceptions may occur if the past skid trails used ephemeral drainages in which case it is preferable to designate a new skid trail elsewhere. In addition, skid trails are limited to the minimum needed to remove logs from the site. There are no watershed level thresholds on the Idaho Panhandle National Forest (IPNF).

Monitoring of disturbance that has a direct effect on soil productivity have been occurring on the IPNF on regular bases through the years. The effectiveness of BMP's have on preventing detrimental disturbance is directly related to soil productivity. Past effectiveness monitoring from 1999 to 2007 of post harvest units has found a 92% effectiveness rate in BMP's in prevention in detrimental disturbance that exceeds the Regional or Forest Plan Soil Quality Standards. Those Forest Plan Monitoring report include (PF Doc.1999 CR-15 pp 50-51, PF Doc. 2000 CR-16 pp 2, PF Doc.CR-17 2001 pp 51-53, PF Doc. CR-18 2002 pp59-60, PF Doc. CR-22 2003 pp 75-78, PF Doc. CR-26 2004 pp 55-71, PF Doc. Soil-70 2005-06 Draft Soils Report. PF Doc. Soil-71 2007 Draft Soils Monitoring Report.

Comment: "The FS fails to estimate the varying quantitative detrimental soil impacts due to the disclosed implications of all landtype and other natural soil productivity limitations…The FS fails to disclose the results of monitoring of past actions on these various landtypes or other natural soil productivity limitations, which would reveal these differential levels of soil impacts of the various logging activities carried out in the past (and now proposed with this new project)."

Response: Monitoring was completed on all the activity areas that are proposed under the Deerfoot EA and across all the landtypes present within those activity areas (PF Doc. Soil-1). Landtype information associated with the proposed activities areas is provided in the project files (Landtype descriptions PF Doc. Soil-2) and (Landtype hazard calculations PF Doc. Soil-3). Landtypes and those hazard ratings are discussed in detail on pages 3-113 through 3-115.

Comment: "The EA states that temporary roads would be used, but does not disclose how the area impacted by such roads are included in calculated percentages of detrimental soil disturbance."

Response: On page 3-123 Table 3, Soil-5 is a detailed list of the existing and potential disturbances to soils under the Proposed Action Alternative. Temporary roads are included in the disturbance calculation found on this page.

Comment: "The FS does not adequately demonstrate the effectiveness of the soil mitigation measures proposed. There is reason to doubt their effectiveness."

Response: There is no soil mitigation proposed in the Deerfoot EA. One of the design features associated with the construction of temporary roads is discussed on page 2-13 and 2-14 under features designed to protect soils and is also located in the project files (PF Doc. Soil-21).

Comment: "A display/map showing the percent detrimental disturbances over previously-established activity area boundaries (old cutting units, etc.) is missing."

Response: A map displaying detrimental disturbance one was never developed for this project. On page 3-123 Table 3, Soil-5 displays the monitored disturbance found in all the propose activity areas. PF Doc. Soil-16 is a map displaying past harvest activities that have occurred within the Deerfoot watersheds.

Comment: "The IPNF's narrow interpretations of the SQS and the Forest Plan mean the FS never has to even consider, during project planning and review such as for this one, the soil conditions in old cutting units or in areas that have experienced soil damage from other causes such as natural or prescribed fire, cattle grazing, natural or management-induced landslides, off-road vehicle use, or even from a high density of roads in a given watershed—in order to restore such conditions. Only the proposed activity areas are considered."

Response: As stated above; The EA follows Regional direction in defining the "activity area" (R1 Soil Quality Standards Suppl. 2500-99-1 page 2 and as defined on page 5), as the area used for direct, indirect and cumulative effects. As stated above within the "activity areas" all past, proposed and foreseeable activities are analyzed for ground disturbing activities such as timber harvest, both classified and non-classified and temporary roads, and helicopter and tractor yarded landings. To expand the cumulative effects area to the watershed scale would mask the effects of past disturbance. These other elements of disturbance however not ignored. The majority of these other disturbances are addressed within the Aquatics direct, indirect and cumulative effects analysis. For instance; effects from fire, sensitive landtypes that are prone to landslide, roads and past harvest disturbances are all addressed and modeled as part of the existing condition with detailed write-ups addressing effects in the Aquatics section 3.4. Illegal OHV use has been identified with planned closures to occur during implementation of the project as stated on page 2-10. Grazing within the Deerfoot Resource Area is very minor. Only 9 cow/ calf pairs are allotted, with a distribution of 90 percent on private and 10 percent on Federal lands (Allotment Manage Plan for Iron/Mokins PF Doc. Soil-R-74).

Comment: "For example, the IPNF fails to consider the soil productivity implications of any level of road density in project area watersheds."

Response: As listed in section 3.5, Soils Productivity on pages 3-123 and 3-124 in Table 3, Soil 5, road disturbance in incorporated into the activity areas determination of meeting both the Forest Plan and Regional Soil Quality Standards. As discussed above, both the Regional and Forest Plan Standards define the "activity area" in determining the direct, indirect and cumulative effects for the soil resource.

Further discussion on roads and road densities are found in section 3.4, (Aquatics) under the Water Quality discussion for each of the sub-watershed (pages 3-78, 3-80, 3-82, 3-83 and 3-84).

Comment: "Also, soil productivity can only be assumed to be maintained if it turns out that the SQS soil standards work. To determine if they work, the FS would have to undertake objective, scientifically sound measurements of what the soil produces (grows) following management activities. But the FS has never performed adequate studies on the IPNF."

Response: The validation of SQSs is beyond the scope of this analysis and the IPNF – however, several Forest Service programs do collect physical soils data. These programs include the Forest Inventory and Analysis Program (FIA) and the Terrestrial Ecological Unit Inventory (TEUI). Both of these programs are broad scale programs collecting data over

large landscapes and currently provide data to the field soil scientist as they determine the scope of work for a specific project. However, the data collected by these programs is often too broad to cover site-specific soil disturbance at the activity area scale.

Management effects to soil or site productivity requires validation monitoring to ensure that land management activities are not impairing the ability of the land to produce vegetation and provide for ecosystem function. Validation monitoring is a long-term endeavor since effects may not be detected for decades. The North American Long-Term Soil Productivity (LTSP) program provides the framework for validation – and several of these plots are located on the IPNF, especially at the Priest River Experimental Station. Region 1 is also working on a regional monitoring and evaluation framework for use during revision of LRMP Monitoring and Evaluation.

Comment: "In other words, when an Activity Area reaches 15% detrimentally impacted soils via compaction, tree growth outside the skid trail, or beyond the 15% compacted area, is affected. This is ignored in the Regional Policy."

Response: The objective of soil management is to assure "the effects of each management system… will not produce substantial and permanent impairment of the productivity of the land…" (National Forest Management Act of 1976). Soil characteristics are used as indicators of soil quality. Measuring and assessing those indicators to the best of our ability is the objective for Soil Disturbance Monitoring.

Curran et al. (2007 PF Doc. Soil-R-76) report that visual disturbance categories provide a practical method for describing soil disturbance within a forested setting. Research on using visual indicators has been done by several soil scientists in western United States (e.g., Curran et al. 2007, PF Doc. Soil-R-76 Page-Dumroese et al. 2006, PF Doc. Soil-R-29; Howes et al. 2000, PF Doc. Soil-R-75) and provides the background information on the visual indicators used during monitoring.

The goal of the data collection process is to obtain a representative estimate of the amount and types of management-caused disturbance within a particular activity area. Although there is a 'true' proportion of any area that is disturbed, the only way to determine that true proportion would be to measure every possible point within the entire activity area. Since sampling every point is impossible given time and budget constraints, a sample must be taken. When the sample is chosen randomly (every possible sampling point within the area has the same probability of being chosen) and 'large enough', it can be considered representative of the activity area as a whole.

The claim that detrimentally impacted soils are not adequately addressed in the Regional Policy is beyond the scope of this analysis.

Comment: "It is erroneous to assume that BMPs will assure water quality will be maintained, if present conditions are in many locations already in violation of the standards. The failure of BMPs is seriously implicated in the scientific literature."

Response: The EA states that Best Management Practices (BMPs) can help mitigate management effects, not altogether eliminate them (Aquatics Appendix A). It is understood that sediment will be generated from activities; but by implementing BMPs and other mitigation measures, potential effects can be lessened.

The applications of BMPs are standard procedures for any harvest or fuels reduction project on National Forest System lands. BMPs are a tool with which the State of Idaho implements the Clean Water Act to meet water quality standards. Properly applied, BMPs limit non-point source pollution, the kind of pollution that results from land management activities. Many BMPs are incorporated as contract provisions, others are additional mitigation. Mitigation beyond BMPs specific to each project (such as Deerfoot EA) are often identified. BMPs are monitored routinely by the Timber Sale Administrators and other specialists during project implementation. If they are not effective or required conditions are not being met, operations are suspended until conditions can be met.

BMP implementation and effectiveness monitoring on the IPNF is reported annually in the Watershed and Fisheries Forest-wide Monitoring Report, and has been found to be effective in meeting or exceeding Idaho Forest Practices requirements (Project File CR 004–018 IPNF Monitoring Reports 1988-2002).

BMPs are designed and intended to *minimize* adverse effects of management practices and management systems. There will always be a risk associated with most physical disturbances to the land by management; BMPs will usually prevent the direct or cumulative effects of those practices from altering the beneficial use support capability of the water. But there still is a limit and an occasional failure. BMP implementation and effectiveness monitoring on the IPNF is reported annually in the Watershed and Fisheries Forest-wide Monitoring Report, and has been found to be effective in meeting or exceeding Idaho Forest Practices requirements (Project File CR 004-018 IPNF Monitoring Reports 1988-2002)

Comment: "The FS cannot substantiate that mitigation measures will be fully implemented. The FS also cannot provide quantitative data that confirms previous mitigation measures associated with earlier timber sales in the cumulative effects analysis area in fact substantially improved or protected water quality or fisheries habitat."

Response: In the Deerfoot EA there is full disclosure of the Characterization of the Affected Environment for each watershed in the in the cumulative effects analysis area, where disclosure has been provided and discussed on the amount of mitigation that has previously occurred within the watersheds (Page 3-75:84). Inclusive in the discussion is the number of road miles decommissioned the disclosure of the total percent reduction in sediment yield that resulted from these miles of road decommissioned. The amount of riparian related watershed restoration was disclosed for the Stump Creek drainage brought on by illegal user-created access. Within the Existing Conditions section for the fisheries section (Page 3-90) mitigation information was disclosed that occurred during the Douglas-fir Beetle Project (1999) on road #1536 to allow for fish passage.

Comment: "The EA proposes barriers to the acknowledged illegal travel. Barriers and front-end decommissioning are proposed. The EA does not disclose if drainage features such as culverts would be left intact on these decommissioned roads."

Response: Within the Deerfoot EA there are illegal user created overland trail routes that are proposed to have debris barriers placed on the front-end of these (Table 2-2; Pages 2-09:10). These illegal routes were never nor are ever planned as NFS roads as they were illegally created, consequently do not have drainage features such as culverts. The front-end decommissioning (Table 2-2) proposed on two roads (road #'s 206U0 and 206UQ; see Proposed Action Alternative map) are to prevent future illegal user created access on two spur roads off the main #206 road that traverse the riparian areas, that contain no known culverts. Hence removal will prevent future riparian damage along these routes.

Comment: "The EA also is deficient in its disclosure of the results of the Roads Analysis Process, and therefore the public is unable to be specific in discussing better travel planning for the area, including the reduction of the network of roads that is so ecologically damaging."

Response: The Roads Analysis Process document is included in the project files (PF Doc TRANS-01). Travel planning is being completed under a separate process, as described in the EA on page 2-4.

Comment: "The EA does not seem to distinguish between scientific studies that have been subject to independent peer-review and studies that have not, which is why so many of its conclusions that support logging in the Deerfoot area are not reasonable."

Response: The EA uses scientific studies that apply to the Deerfoot Resource Area, most of which have been peer reviewed, but some have not. The literature cited in the EA has been carefully reviewed and selected for its applicability to the Resource Area. Not all peer-reviewed literature is relevant or valid in the forest types in the Deerfoot Resource Area, and some literature which hasn't been peer reviewed contains valuable information. Similarly, some literature cited in comment letters is not peer reviewed, such as Rhodes 2007, Nowicki 2002, Cohen and Butler 2005, DellaSala et al. 1995, Juel 2003, etc.

Comment: "It is disturbing the degree to which the IPNF is going out of its way in a pitiful attempt to discredit the public who dare to present differing scientific opinion than the managers of a national forest who have an almost unmatched legacy of ecosystem destruction ("Conflicting Science", 3-61, 62). With this being the level the FS stoops to in trying to justify its status quo world view, the era of conflict and litigation on this national forest is sure to continue."

Response: The EA contains a discussion of differing science; why such science is applicable to this project or why it is not. It should not be interpreted as an attempt to discredit the public – it is the result of a comprehensive review of literature suggested in scoping comments.

Comment: "Why doesn't the EA address the specific scientific conclusions in public comments that suggest a different management approach for those issues?"

Response: The EA addresses the scientific conclusions in public comments either in the text of the EA or in Project File documentation (PF Doc PI-008). Specific alternatives to the proposed action should be suggested during the scoping period. A thorough review of comments did not reveal any alternatives to the proposed action that met the purpose and need for the project (EA page 2-16)

Comment: "In sum, agency expert opinion provided in NEPA documents is not the same as "the best scientific information" available, although the opinion may be based—however loosely or closely—upon the best science. Agency specialists have an acute responsibility to thoroughly investigate the latest and best available science that pertains to their field of expertise, so as to best inform decisionmaking. We maintain (and the courts have agreed) that this evaluation of scientific information must include that science specifically referred to in comments by the public (such as this letter) or other agencies, as pertaining to the project at hand."

Response: The science specifically referred to in comments by the public was reviewed and is included in both the text of the EA and in the project files (e.g. PF Doc PI-008, EA page 3-61).

Comment: "It is important that the results of past monitoring be incorporated into planning. All Interdisciplinary Team Members should be familiar with the results of all past monitoring pertinent to the project area, and any deficiencies of monitoring that have been previously committed to. For that reason, we note these deficiencies in the EA:

- The results of all monitoring done in the project area as committed to in the NEPA documents of all past projects (completed or ongoing) implemented in the proposed project area watersheds.
- The results of all monitoring done in the proposed project area as a part of the Forest Plan monitoring and evaluation effort.
- A description of any monitoring, specified in those past project NEPA documents or the Forest Plan for proposed project area, which has yet to be gathered and/or reported"

Response: Monitoring of regeneration of harvest units as required by NFMA is included in the project file (PF Doc VEG-20). All other monitoring is included in the project files for each specific resource. Monitoring of past timber sale implementation is contained in the sale administration files and is available on request. All Forest Plan monitoring reports are included in the project file. There is no required monitoring that has yet to be gathered and/or reported, although monitoring of the Stump-Shamrock Restoration Project for both soils and aquatic issues will likely take place in the future.

Comment: "Please disclose if the District has performed all of the monitoring and mitigation required or recommended in any NEPA documents, and the results of the monitoring. Lacking such knowledge, justification for more project manipulation is missing."

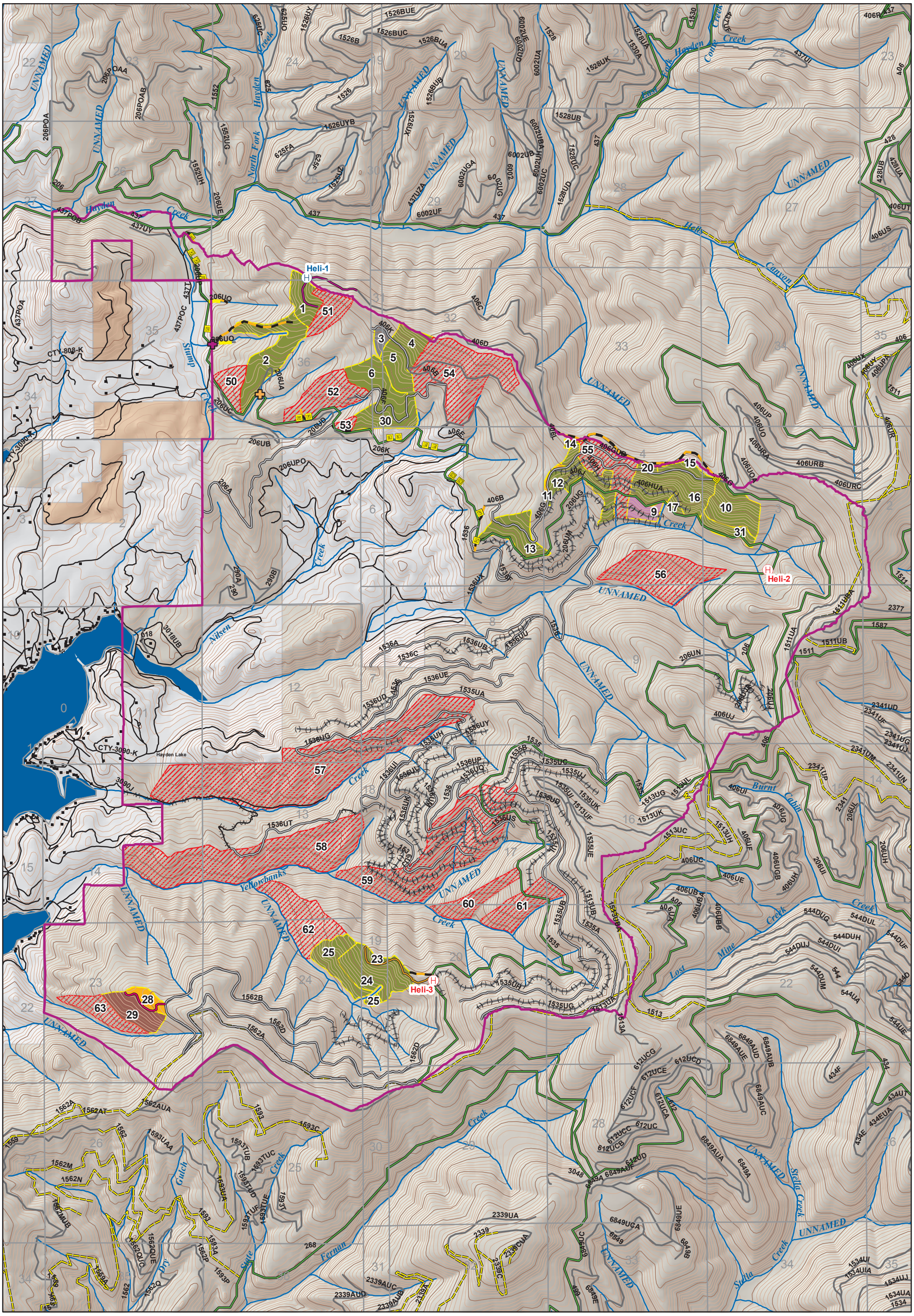
Response: All monitoring and/or mitigation required by legal guidance or recommended in NEPA documents has been completed. Monitoring of regeneration of harvest units as required by NFMA is included in the project file (PF Doc VEG-20). All other monitoring is included in the project files for each specific resource. Monitoring of past timber sale implementation is contained in the sale administration files and is available on request. All Forest Plan monitoring reports are included in the project file.

Comment: "Before approving a further set of activities that are known causes of ecosystem damage—activities such as logging, road construction, and motorized access—the FS must complete the revision of the Forest Plan in order to elucidate a truly sustainable ecological vision of forest management. The FS proposes to continue to implement a Forest Plan that has in many ways expired, both legally and ecologically. Project-level decisions based upon an out-of-date Forest Plan and in an absence of adequate monitoring are inadequately informed, are likely illegal, and will result in more of the same kind of damage that has occurred continuously under the first Forest Plan."

Response: Forest Plan revision is outside the scope of this project. All proposed activities are in compliance with the Forest Plan.

Comment: "It is our intention that you include in the record and review all of the scientific literature and other incorporated documents we've cited herein, and explicitly respond in writing to the scientific information as it applies to the project proposal."

Response: The scientific literature and incorporated documents cited in this comment letter have been reviewed and responses written; in addition, responses were written to comments received during the scoping period (PF Doc PI-008).



Legend

Project Area
Sections
Structures
Streams
Lakes

HELISPOTS
STATUS
EXISTING
PROPOSED

Roads
ROADS OPEN TO ALL MOTORIZED USE
ROADS RESTRICTED TO ADMINISTRATIVE USE
ROADS WITH SEASONAL RESTRICTIONS
MOTORIZED TRAILS
TRAILS DESIGNATED FOR NONMOTORIZED USE
NON FOREST SERVICE ROADS

CURRENT ROAD STATUS
STORAGE
DECOMMISSIONED
RECONTOURED

ADDITIONAL ROADS
TYPE
ILLEGAL OHV
PERMANENT ROAD
SKID ROAD FOR TRACTOR SWING
TEMPORARY ROADS

PROPOSED ILLEGAL OHV BARRIER
DEBRIS BARRIER
FRONT END OBLITERATION
DITCH

CULVERTS
TYPE
RELIEF CULVERT
UPGRADE CULVERT

UNITS
PRESCRIPTION
BURN
CLEARCUT WITH RESERVES
REHABILITATION
SHELTERWOOD
SHELTERWOOD / THIN
THIN

DEERFOOT SELECTED ALTERNATIVE

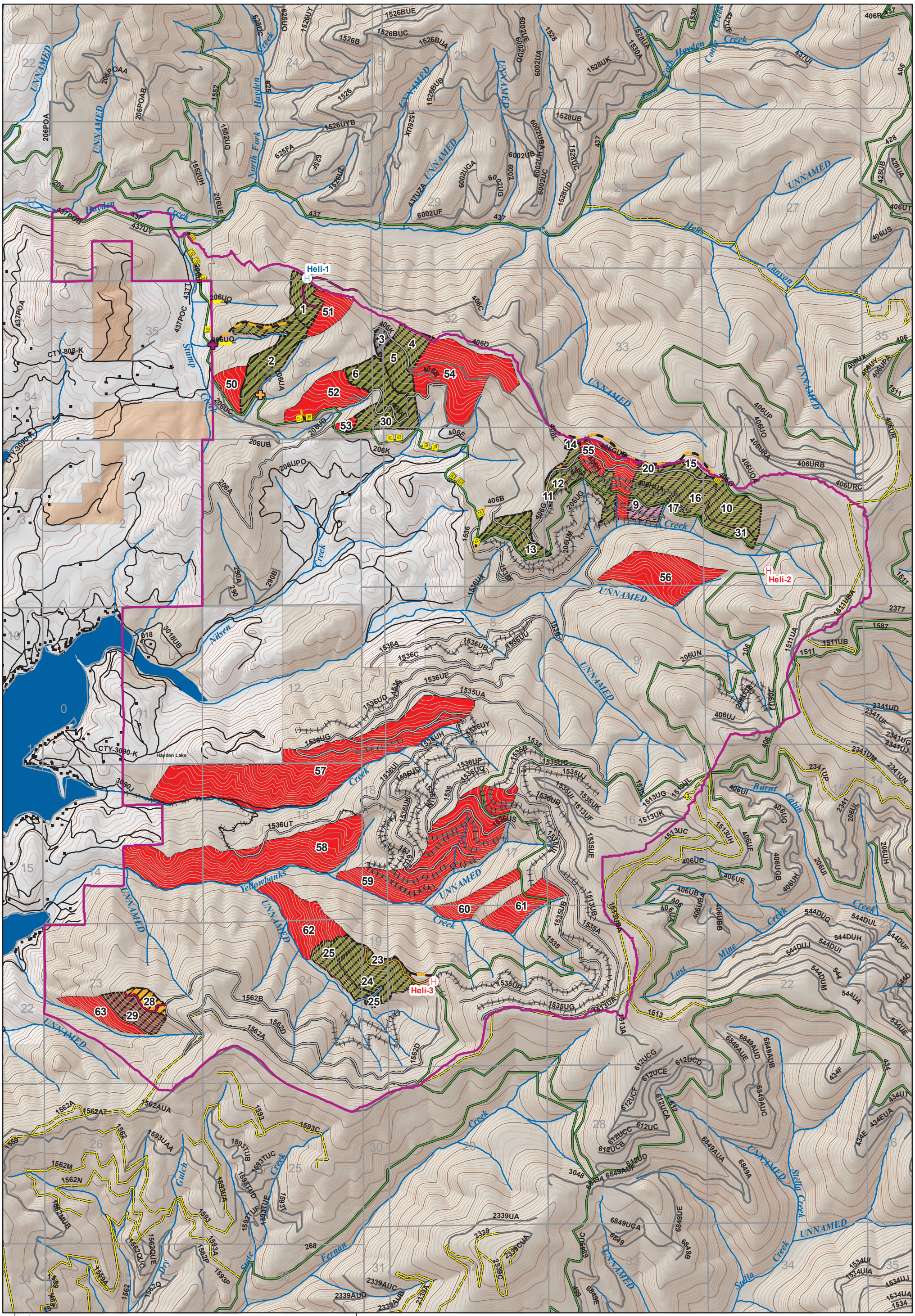
N W E S

1:34,359

Miles
0 0.125 0.25 0.5

ATTENTION

This product is reproduced from geospatial information prepared by the U.S. Department of Agriculture, Forest Service. GIS data and product accuracy may vary. They may be: developed from sources of differing accuracy, accurate only at certain scales, based on modeling or interpretation, incomplete while being created or revised, etc. Using GIS products for purposes other than those for which they were created, may yield inaccurate or misleading results. This information was released on Date: April, 2007. The Forest Service reserves the right to correct, update, modify, or replace, GIS products without notification. For more information, contact: Fernan Office, IPNF (208)-664-2318



Legend

CULVERTS
TYPE
RELIEF CULVERT
UPGRADE CULVERT
HELISPOTS
STATUS
EXISTING
PROPOSED
Project Area
Sections
Structures
UNDERBURN

PROPOSED ILLEGAL OHV BARRIER
DEBRIS BARRIER
FRONT END OBLITERATION
DITCH
ADDITIONAL ROADS
TYPE
ILLEGAL OHV
PERMANENT ROAD
SKID ROAD FOR TRACTOR SWING
TEMPORARY ROADS

CURRENT ROAD STATUS
STORAGE
DECOMMISSIONED
RECONTOURED

Roads
ROADS OPEN TO ALL MOTORIZED USE
ROADS RESTRICTED TO ADMINISTRATIVE USE
ROADS WITH SEASONAL RESTRICTIONS
MOTORIZED TRAILS
TRAILS DESIGNATED FOR NONMOTORIZED USE
NON FOREST SERVICE ROADS
Lakes
Streams

UNITS
PRESCRIPTION
BURN
CLEARCUT WITH RESERVES
REHABILITATION
SHELTERWOOD
SHELTERWOOD /THIN
THIN

DEERFOOT SELECTED ALTERNATIVE

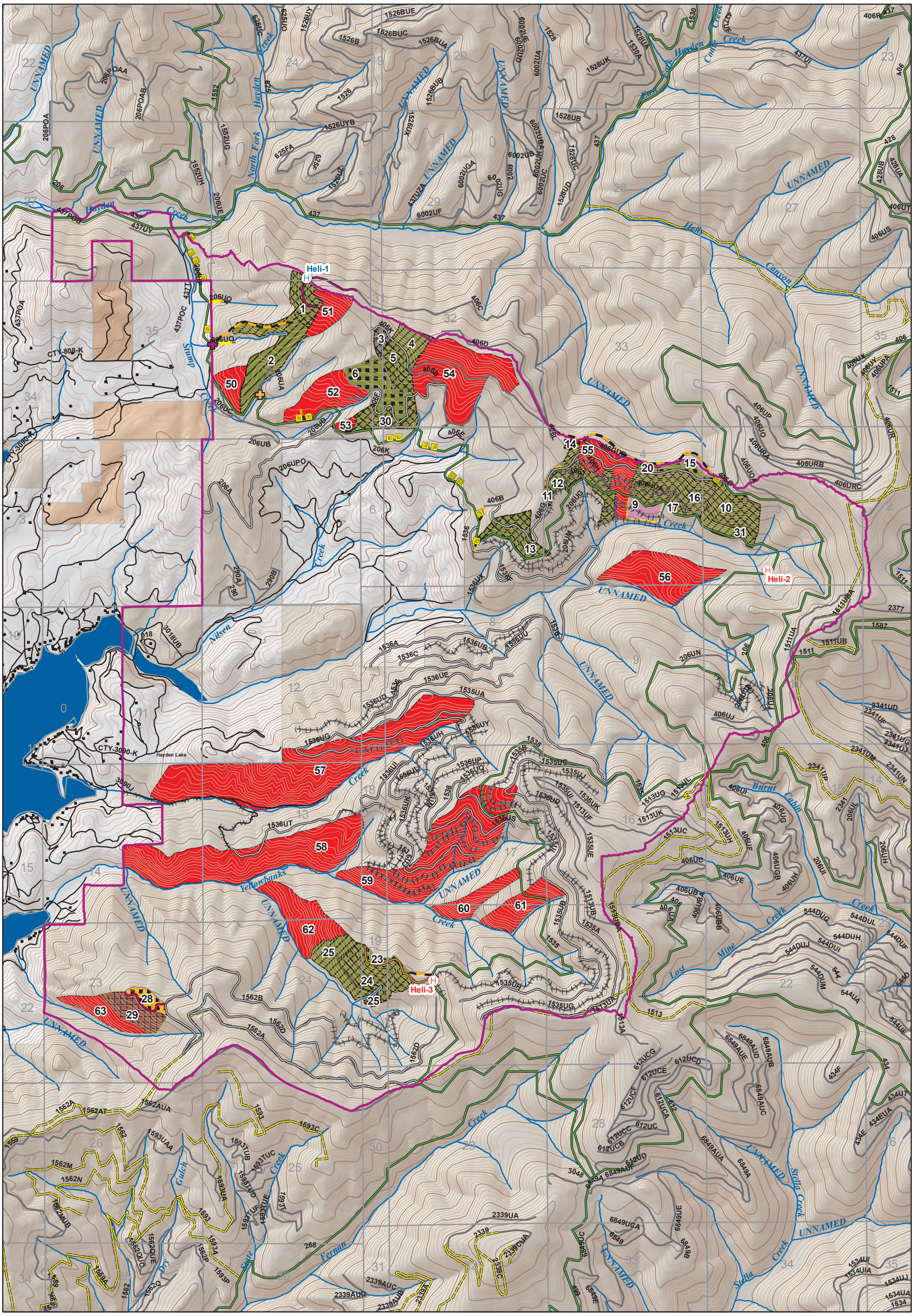
N
W E
S

1:34,359

Miles
0 0.125 0.25 0.5

ATTENTION

This product is reproduced from geospatial information prepared by the U.S. Department of Agriculture, Forest Service. GIS data and product accuracy may vary. They may be: developed from sources of differing accuracy, accurate only at certain scales, based on modeling or interpretation, incomplete while being created or revised, etc. Using GIS products for purposes other than those for which they were created, may yield inaccurate or misleading results. This information was released on Date: April, 2007. The Forest Service reserves the right to correct, update, modify, or replace, GIS products without notification. For more information, contact:
Fernan Office, IPNF (208)-664-2318



Legend

CULVERTS
TYPE
RELIEF CULVERT
UPGRADE CULVERT

HELISPOTS
STATUS
EXISTING
PROPOSED

Project Area
Sections
Structures

PROPOSED ILLEGAL OHV BARRIER
DEBRIS BARRIER
FRONT END OBLITERATION
DITCH

ADDITIONAL ROADS
TYPE
ILLEGAL OHV
PERMANENT ROAD
SKID ROAD FOR TRACTOR SWING
TEMPORARY ROADS

CURRENT ROAD STATUS
STORAGE
DECOMMISSIONED
RECONTOURED

Roads
ROADS OPEN TO ALL MOTORIZED USE
ROADS RESTRICTED TO ADMINISTRATIVE USE
ROADS WITH SEASONAL RESTRICTIONS
MOTORIZED TRAILS
TRAILS DESIGNATED FOR NONMOTORIZED USE
NON FOREST SERVICE ROADS
Lakes
Streams

UNITS
PRESCRIPTION
BURN
CLEARCUT WITH RESERVES
REHABILITATION
SHELTERWOOD
SHELTERWOOD / THIN
THIN

YARDING METHOD
HELI
S/S
SKYLINE
TRACTOR

DEERFOOT SELECTED ALTERNATIVE

N
W E
S

1:34,359

Miles
0 0.125 0.25 0.5

ATTENTION

This product is reproduced from geospatial information prepared by the U.S. Department of Agriculture, Forest Service. GIS data and product accuracy may vary. They may be: developed from sources of differing accuracy, accurate only at certain scales, based on modeling or interpretation, incomplete while being created or revised, etc. Using GIS products for purposes other than those for which they were created, may yield inaccurate or misleading results. This information was released on Date: April, 2007. The Forest Service reserves the right to correct, update, modify, or replace, GIS products without notification. For more information, contact:
Fernan Office, IPNF (208)-664-2318