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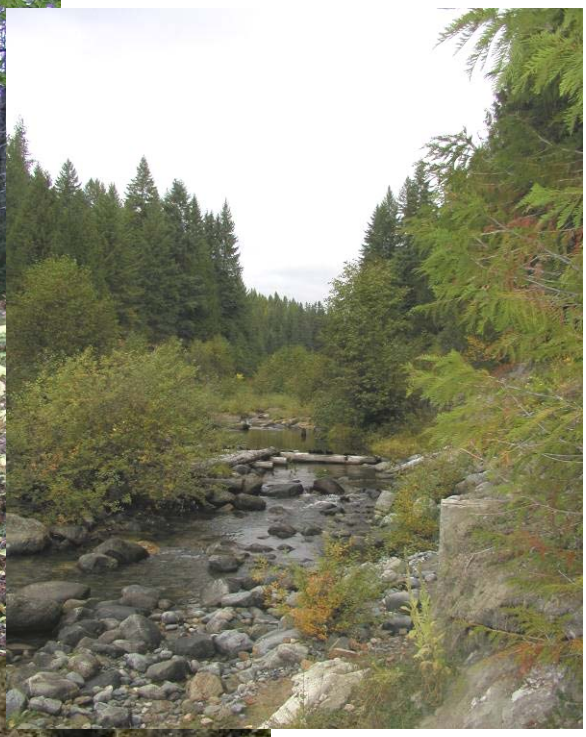
Environmental Assessment

Hanlon Timber and Fuels Management Projects

Newport-Sullivan Lake Ranger Districts
Colville National Forest
Pend Oreille County
Washington



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ENVIRONMENTAL ASSESSMENT

Hanlon Timber and Fuels Management Projects

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ABSTRACT:

The approved alternative of the Final Environmental Impact Statement, Land and Resource Management Plan, Colville National Forest (December 29, 1988), including Regional Forester's Forest Plan Amendment No. 2, and the Inland Native Fish Strategy (INFISH) Environmental Assessment (EA), establishes Forest Management Direction for the Colville National Forest in the form of Goals and Objectives. This project, if approved, would meet some of these Goals and Objectives. The projects focus on hazardous fuels reduction, improving forest health, vegetative restoration, and improving fish and terrestrial wildlife habitat.

Alternatives:

A. This alternative is a "no action" alternative; however, present planned management activities would continue.

B. This alternative would treat approximately 6,708 acres with prescribed fire and mechanical fuel treatments. Alternative B also meets the multiple-use objectives of the Forest Plan, Regional Forester's Forest Plan Amendment No. 2, and INFISH EA by achieving silvicultural goals through commercial (timber harvest) and noncommercial (including prescribed fire) vegetation management. This alternative would treat about 4,647 acres using vegetation management tools, including about 912 acres of regeneration timber harvest. Alternative B builds approximately 3.2 miles of new road, and decommissions about 13.4 miles of existing roads. The change in open roads would be a net decrease of 5.8 miles of National Forest System roads.

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List of Acronyms

AIRFA	American Indian Religious Freedom Act
BE	Biological Evaluation (plants, fish, wildlife)
BMP	Best Management Practice (water)
BPA	Bonneville Power Administration
BPE	Biophysical Environment (vegetation)
CCF	Hundred cubic feet (timber volume)
CFR	Code of Federal Regulations
COR	Contracting Officer's Representative
CR	County Road
CTL	Cut-to-length (a mechanized logging system)
CWPP	(Pend Oreille County) Community Wildfire Protection Plan
DBH	Diameter breast height (a method of describing a tree's size)
DecAid	an internet-based advisory tool developed to help land managers evaluate the effects of forest management on wildlife species that use dead wood habitats
EA	Environmental Assessment
FEIS	Final Environmental Impact Statement
FM	Fuel Model
FPA	Forest Practice Applications (WA state land)
FR	Forest Road
FRCC	Fire Regime Condition Class
FSM	Forest Service Manual
FY	Fiscal Year
GBMU or BMU	Grizzly Bear Management Unit
GIS	Geographic Information System (computerized mapping and analysis software)
HPA	Hydraulic Permit Application process
HRV	Historic Range of Variability (vegetation)
ICBEMP	Interior Columbia Basin Ecosystem Management Project
ID or IDT	Interdisciplinary Team
IGBC	Interagency Grizzly Bear Committee
INFISH	Inland Native Fish Strategy (fish)
KV	Knutson-Vandenberg Act of 1930 (money collected from timber sale purchasers to conduct certain kinds of improvement work in timber sale areas)
LRMP	Land and Resources Management Plan also known as the Forest Plan
MA	Forest Plan management area
MIS	Management Indicator Species (wildlife)
MMBF	Million board feet (timber volume)
MVUM	Motor Vehicle Use Map (recreation)
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act
NFS	National Forest System
NRHP	National Register of Historic Places (heritage)
OHV	Off-highway Vehicle
PAG	Plant Association Group (vegetation)
PM	Particulate Matter (air quality)
PNV	Present Net Value (economics)
PQA	Product Quality Adjustment (financial analysis)
RAWS	Remote Automated Weather Station (fire)
RHCA	Riparian Habitat Conservation Area (fish)
RMO	Riparian Management Objective (fish)
ROS	Recreation Opportunity Spectrum (recreation)
SHPO	State Historic Preservation Office (cultural resources)
SUP	Special Use Permit
TEA	Transactional Evidence Appraisal (financial analysis)
TES	Threatened, Endangered and Sensitive (wildlife, plants)
TMDL	Total Maximum Daily Load (hydrology)
TSA	Timber Sale Administrator

TSC	Timber Sale Contract
USDA	United States Department of Agriculture
USDI	United States Department of Interior
USFWS	U.S. Fish and Wildlife Service (wildlife)
VQO	Visual Quality Objective (scenery)
WADNR	WA State Department of Natural Resources
WEPP	Water Erosion Prediction Project (a physically-based soil erosion model that describes the processes that cause erosion)
WUI	Wildland Urban Interface (fire)

Definitions

Shelterwood regeneration harvest (HSH)	All trees would be harvested except those needed for seed, wildlife, and shelter for the stand-to-be. Residual stand retains 12-30+ trees/acre in the overstory. Generally, the largest trees available would be left as green-tree replacements for snags. This prescription is mostly used on dense, stagnant stands to produce a new stand of early seral species (seedlings) capable of growing toward late structural stage.
Shelterwood/commercial thin (HSH/HTH)	The stands would be a mix of shelterwood and commercial thinning.
Selection harvest (HSL)	Selection of individual trees or small groups of trees to retain a stand with high forest cover while simultaneously providing for an orderly development of trees with a range of ages. Generally uneven-aged management. The result of this treatment is a fully stocked stand that exhibits a variety of stocking and may have small openings created where a new crop of seedlings would become established.
Commercial thinning (HTH)	The removal of a portion of the trees in even-aged or uneven-aged stands to control stand spacing and favor desired trees. The objectives are to remove trees that exhibit poor form, vigor, or pose a significant risk of insect or disease mortality; reduce competition; and to increase growing space for the development of large trees. A fully stocked stand with 40+ residual trees larger than 6” in diameter would result from this treatment.
Commercial thin/overstory removal (HTH/HOR)	The stands would be a mix of commercial thinning and an overstory removal. The overstory removal would be used to release an already established cohort of seedling and sapling sized trees. It would be implemented similar to a shelterwood where a portion of the overstory would be removed. The trees to be removed would be trees that are not expected to become large diameter trees such as lodgepole pine, trees that have been infected by a pathogen such as western larch infected with dwarf mistletoe, or trees that have been attacked by insects. Following harvest, a precommercial thinning would be used to control the stocking and species composition in the newly developing stand. The residual overstory may range from 12-25 trees/acre depending on the species and condition of the trees that are present.

Commercial thin/shelterwood (HTH/HSH)	The stands would be a mix of commercial thinning and shelterwood. Portions of the stand that are stagnant and would not readily move towards a late structural stage without regenerating the area would receive a shelterwood harvest. The remainder of the stand would be thinned. Within the Hanlon project area, those areas proposed for shelterwood harvest are primarily lodgepole pine pockets that would not respond to a release (thinning) treatment.
Precommercial thin/substandard material removal (PCT/HCU)	The stands would be a mix of precommercial thinning and substandard material removal. Operationally the HCU prescription would be implemented similarly as the HTH described previously. However, the majority of the trees removed would be below the merchantability specifications for sawtimber. The material removed could be utilized as chipwood, poles, or some other sort of biomass type material.
Precommercial thinning (PCT)	Treatment in plantations that do not have enough commercial value to treat with a harvest prescription, but would benefit by thinning out small-diameter trees, allowing residual trees to grow and increasing overall stand vigor. Cut trees would be bucked, lopped, and scattered on the site. Generally, the stands would be thinned on a 12 feet by 12 feet spacing where topography and economics would allow for a future commercial thinning in 20 to 40 years. In stands that a future commercial thin is not considered to be economically feasible then the average PCT spacing should be increased to approximately 14ft by 14ft. A mix of different species including hardwoods is preferred after treatment with a priority on leaving the healthiest trees with greater than 40% live crown ratios and removing trees with damage or disease evident.
Broadcast burning	A controlled fire over the entire surface of a designated area.
Jackpot burning	A controlled fire within concentrations or ‘jackpots’ of slash only. Only part of a designated area is burned. Fire intensity is usually low to moderate with this fire.
Underburning	A fire that is constrained to surface fuel and therefore has a low to moderate fireline intensity (less than 300 kW/m). Underburns are commonly prescribed for dry forest types such as ponderosa pine or mixed conifer to reduce fuel but leave the overstory intact. Underburns are usually classified as low-severity fires.

Mechanical fuel treatments	These treatments are being done in commercial treatment stands to reduce fuels to historic conditions and create planting spots for regeneration. Treatments may include machine/grapple piling, noncommercial tree felling, and hand piling. Mechanical fuel treatments may also prepare the stands for future underburning, or where prescribed fire would likely result in losses to the residual overstory.
Mastication	Mastication is the process of grinding, shredding, or chopping surface and ladder fuel residue. This treatment can lower fuel bed depth, raise crown base height, and increase fuel-ground contact to promote decomposition. Mastication can be used in lieu of prescribed fire—either due to risk of escape, smoke concerns, or other management constraints.
Machine/Grapple Piling	The piling of slash in a harvest unit using a machine with a grapple arm for picking up slash. Slash is piled in open areas for burning when snow cover is sufficient to prevent fire spread. Allows for the burning of slash in a more controlled environment.
Planting	Artificial reforestation to regenerate a stand or interplant with natural regeneration. Planting would reintroduce species that may be absent or lacking in the stand due to past disturbances. Planting allows the FS to plant a 1 to 3 year old seedling on the site to help overcome the competition of brush or grasses. Planting helps to rapidly re-establish the next stand and move it towards the desired future condition. Relying on only natural regeneration can often be difficult and unsuccessful in re-establishing the desired mix of species on the site.
303(d) list	Section 303(d) of the Clean Water Act establishes requirements for states and tribes to identify and prioritize water bodies that do not meet State water quality standards.

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CHAPTER I PURPOSE AND NEED

INTRODUCTION AND MANAGEMENT DIRECTION

The Land and Resource Management Plan of the Colville National Forest (hereafter referred to as the Forest Plan) represents the preferred alternative of the Final Environmental Impact Statement (FEIS, approved December, 1988) and, together with the Record of Decision, as amended by the Regional Forester's Forest Plan Amendment #2 and the Inland Native Fish Strategy (INFISH), provides direction for management of the Forest and general discussions of associated environmental impacts. This Environmental Assessment (EA) is "tiered" to the Forest Plan FEIS. Projects identified in this EA are being proposed to meet some of the Forest Management Objectives identified on pages 4-3 through 4-5 of the Forest Plan.

The Newport-Sullivan Lake Ranger Districts are conducting this EA to analyze options for restoring forest health and reducing hazardous fuels, and to provide data from which the Forest Supervisor can make a decision. Treatment options analyzed include commercial timber harvest, fuel treatments (e.g., prescribed burning, mastication, grapple piling, biomass removal and whip-falling), fish habitat improvement projects and other water quality, timber, and wildlife projects.

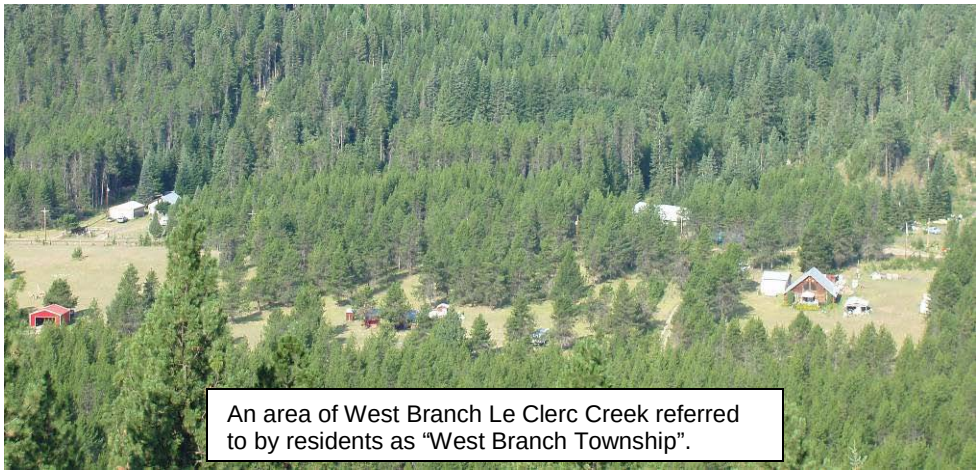
Location

The analysis area encompasses about 8,996 acres of National Forest System (NFS) land within the Le Clerc Creek drainages. The elevation of the area ranges from about 2000 to 4100 feet. The legal description is all or portions of the following: sections 4 and 5 T. 35 N. – R. 44 E.; sections 12-15, 22, 23, 24, 26, T. 36 N. – R. 43 E.; and sections 7-10, 14-23, 28-30, 32, 33, and 34, T. 36 N. – R. 44 E., Willamette P.M.; Pend Oreille County, Washington. A vicinity map is located in appendix B.

PURPOSE AND NEED

The first purpose for this project is to reduce fuel levels adjacent to private ownership and provide for firefighter safety. This includes the need to:

1. Implement the Forest Service Strategic Plan (revision 2000) in a manner consistent with the Colville National Forest Land and Resources Management Plan and the Pend Oreille County Community Wildfire Protection Plan. The Pend Oreille County Community Wildfire Protection Plan identified the Blueslide area (listed as priority #1B by the fire chiefs within Pend Oreille County) and Lost Creek area (priority area #3) as communities at risk based on guidance found in *Handbook for Wildland–Urban Interface Communities, Preparing a Community Wildfire Protection Plan* (March 2004). These priority areas include land located both east and west of the Pend Oreille River. Treatment would reduce the risk of wildfire burning WUI lands and losses experienced because of wildfires. This would also protect ecosystems that contribute to their way of life and the sustainability of the local and regional economy.



An area of West Branch Le Clerc Creek referred to by residents as “West Branch Township”.

2. Reduce hazardous fuels[1] (ground fuels, ladder fuels, and forest crown continuity), for the purpose of reducing the risk of large, stand-replacing fires. The effect of reducing the risk of large, stand-replacing fires would be to: 1) decrease the probability that a wildland fire would develop into, or be sustained as, a stand-replacing or crown fire, 2) increase the ability to provide for public and firefighter safety during a wildland fire, and 3) increase the effectiveness and efficiency of protecting property within the wildland-urban interface[2]. The Pend Oreille County, Washington, Community Wildfire Protection Plan (CWPP) includes the need to consider forest management efforts that would slow the approach of a fire that may threaten the areas listed as priority by the Pend Oreille County fire chiefs (#1B and 3 for the Hanlon project).
3. Start the process of reversing the hazardous and expensive trend toward high-intensity crown fires by reducing fuel levels and stocking and reintroducing historic disturbance regimes with use of prescribed fire. Wildfires are becoming increasingly expensive; dangerous to firefighters; and threatening to wildlife habitat, beneficial uses of water, and adjoining private land and property. During the past 75 years, fire suppression has resulted in increased ground and ladder fuel conditions, and increased tree-crown continuity in portions of the Hanlon project area. As forest fuels have increased over time, the potential for high intensity crown fires has also increased. Over the long-term, hazardous fuels reduction would offset and eventually reduce escalating fire suppression costs and create a more “fire-safe” forest environment.

The health, resilience, and productivity of fire-adapted ecosystems rely on periodic burning at ecologically appropriate frequencies. Today, many of the most serious wildfire threats and forest health issues occur in these fire-adapted ecosystems. Reducing forest fuels in these fire-dependant ecosystems can make them more resilient to high intensity crown fires. Fire resiliency also improves with increasing the percentage of fire-tolerant tree species (early seral species).

Most of the natural fuels proposed for treatment in the Hanlon analysis area are in Condition Class[3] 2 or are Condition Class 1 and moving toward Condition Class 2. Reducing fuels in Condition Class 2 stands, and maintenance activities in Condition Class 1 stands, will be the main focus in achieving the primary purpose as mentioned above[2].

The consequence of deferral is high: allowing fire-adapted forests to develop into Condition Class 3 stands greatly increases the wildfire severity. The cost of fuel reduction and maintenance burning can be substantial; yet without fuel reduction treatments, fire suppression costs, public resource losses (including wildlife & riparian habitat), private property losses, and environmental damages are expected to be substantially greater over time.

The second purpose for this project is to provide for a healthy sustainable forest. This includes the need to:

1. Remove diseased trees, reduce stand density, and modify tree-species composition for the purpose of improving forest health[4]. This would have the effect of 1) improving tree growth, 2) reducing tree and stand susceptibility to damaging insects and diseases, 3) improving the distribution of stand structures[5] across

[1] 10-year Comprehensive Strategy Implementation Plan (USDA Forest Service, 2002)
[2] Cohesive Strategy Priority (USDA Forest Service, 2000)
[3] Condition Class is one way of determining a stand’s potential risk to wildfire.
Condition Class 1: stands are within historic fire cycle;
Condition Class 2: stands have missed at least two fire cycles;
Condition Class 3: tree stands are dense with intense fire burning in most tree crowns; wildfire would cause heavy mortality to entire stand and the soil’s organic layer may be removed.
Fire Regime I – high frequency, low severity fires (e.g., large ponderosa pine stands);
Fire Regime III – mixed severity fires (e.g., found in mixed Douglas-fir, western larch, grand fir stands)
[4] A healthy forest is defined as the condition in which the forest (trees, stands, and forested landscape) meets the desired conditions described in the Forest Plan.
[5] A structural stage is a stage in development of a vegetation community. Examples of structural stages include stand initiation, stem inclusion, understory re-initiation, multi-stratum without large trees, multi-stratum with large trees, and single-stratum with large trees.

the forest landscape, and 4) improving vegetative composition within areas adjacent to riparian corridors to help meet riparian habitat management objectives.

The Forest Plan directs that the Forest Service promote tree growth, have reduced insect and disease levels, and have stand densities that will sustain wood fiber production (Forest Plan pages 4-2, 4-18, 4-64, 4-65). For Forest Plan Management Areas 1, 5, 6, 7, and 8, the Forest Plan directs that insect and disease outbreaks be prevented or suppressed when Management Area values are threatened (Forest Plan pages 4-72, 4-96, 4-100, 4-101, 4-104, 4-108).

With the exception of areas treated within the last 15 years, the Hanlon analysis area currently includes many acres of vegetation that are crowded and highly susceptible to a variety of pathogens. Approximately 2,400 acres are lodgepole pine dominated stands, or stands with a substantial amount of lodgepole, which would be the highest priority for treatment. Stand conditions, including species mix size, age, live crown ratio, etc., are conducive to wind and snow damage as well as making stands susceptible to extensive insect and disease damage. Bark beetles, defoliating insects, dwarf mistletoes, and root diseases are occurring in all or portions of the remaining stands. These and other forest pathogens are currently present at endemic levels; however, without stand improvements, there is a high probability of population increases resulting in substantial tree mortality and increased fuel loading. Stand treatments are needed to reduce susceptibility to continuing insect and disease-caused mortality and weather damage over the longer-term.

Treating excess fuel build-up and beginning to restore fire to its historic function in the ecosystem would push treated areas towards a healthier, more resilient condition. Historically, fire was the primary ecosystem disturbance shaping the upland vegetation and wildlife populations (because of fire's effect on habitat). Fire suppression through past decades has changed the relationship between fire and the landscape; this has caused shifts in species composition, stand structure, and created homogeneity. Restoring fire where possible will increase the resiliency of the landscape to stand-replacement wildfires and impacts of high insect population levels. Consistent with the National Fire Plan, this project emphasizes treatment in the portions of the analysis area with shorter-interval, fire-adapted ecosystems.

Restoring early seral species[6] to their historic level would improve sustainability and resiliency in this ecosystem. Under historic fire regimes, early seral species played a more dominant role in the landscape. Many of the largest trees were early seral species. Harvest, especially during the homestead era and large-scale logging[7], removed the largest early seral trees. Restoring early seral species would result in a landscape that is less susceptible to insect and disease outbreaks and better able to withstand effects of fire. This would improve conditions for developing late and old structural stage[8] stands.

2. Address riparian habitat conditions that affect water quality and fish habitat. There are areas that do not currently meet direction listed in the Inland Native Fish Strategy due to inappropriately sized culverts for fish passage, lack of canopy, current road locations, and unmanaged dispersed recreation (e.g., user-created OHV[9] trails and campsites). Restoring stream locations, improving fish passage, reducing sediment input, and improving structure and species mix within Riparian Habitat Conservation Areas (RHCAs), would improve water quality and fish habitat in a watershed designated to be managed for bull trout habitat.

3. Treat the area to improve terrestrial wildlife habitat (winter range habitat for big game). Providing quality winter range is a key factor in maintaining healthy herds of big game animals. The objective for big-game winter range in the Forest Plan (page 4-106) is to "Manage for cover/forage ratios approaching 50:50 dispersed to provide for a maximum utilization of forage." At least 20 percent of the cover component should be thermal cover and the rest can be thermal or hiding cover. The Forest Plan defines adequate thermal cover for deer as stands of evergreen trees that are at least 40 feet tall with a crown cover of 60

[6] Early seral species are fire-tolerant tree species (such as western larch, ponderosa pine, and western white pine) that historically dominated the landscape. These tree species grow in natural succession soon after a disturbance (fire or logging).
[7] This area was heavily influenced by logging conducted by the Diamond Match and Panhandle Lumber Companies. Influence of these companies is discussed further in Chapter 3.
[8] Late and old structural stage stands are remnants of stands that survived numerous fire regimes, and are dominated by large seral species.
[9] OHV = off-highway vehicle

percent or greater. Designated winter range in the project area is low in forage (24 percent) and exceeds cover goals (76 percent).

Vegetation management utilizing commercial harvest and/or noncommercial treatments (including prescribed fire, precommercial thinning, and reforestation) could improve forage opportunities and long-term cover habitat for ungulates.

4. Utilize commercial timber or stewardship sales as a tool whenever possible to support local infrastructure and economy. Provide sources of employment and forest products which sustain future options for completing forest management projects. Complete roads analysis to determine infrastructure and access needs.
5. Implement projects which address issues identified as high priority for management by members of the Kalispel Tribe. Kalispel Tribal members have requested that the Forest implement vegetation, hydrology and fisheries projects that support cultural traditions and historic use of the Le Clerc drainage. These projects include restoring early seral tree species, improving fish habitat, relocating Middle Branch Le Clerc Creek Road (FR 1935), decommissioning sections of existing Middle Branch Le Clerc Road, removing or replacing culverts that are fish blockages, and using prescribed fire to improve forage for ungulates.

Management Area Guidelines

Management direction for each Management Area (MA) is provided by the Forest Plan, which describes in detail the Goals, Objectives, Standards, Guidelines, and Management Prescriptions (Forest Plan chapter 4). About 8,996 acres of NFS land and 5,263 acres of non-NFS land lie within the analysis area. The goal of each MA is briefly described below. No federal actions are proposed on any non-NFS lands.

Management Area	Acres	Percent of Analysis Area
1	465	3%
5	91	<1%
6	347	2%
7	4434	31%
8	3659	26%
Non-NFS	5263	37%

There are five MAs in the analysis area. This table shows the percent of NFS land allocated to each management prescription, and maps in appendix B show the locations of these management prescription areas.

MA-1 - Old-growth Habitat – The goal is to provide essential habitat for wildlife species that require old-growth forest components and contribute to the maintenance of diversity of wildlife habitats and plant communities.

MA-5 - Scenic/Timber – The goal of these areas is to provide a natural appearing foreground, middle, and background along major scenic travel routes, while at the same time providing wood products.

MA-6 - Scenic/Winter Range – The goal is to provide a natural appearing foreground, middle, and background along major scenic travel routes while providing quality winter range for deer.

MA-7 - Wood/Forage – The goal is to achieve optimum production of timber products while protecting basic resources.

MA-8 - Winter Range – The goal is to meet the habitat needs of deer to sustain carrying capacity at 120% of the 1980 level, while managing timber and other resources consistent with fish and wildlife management objectives.

PROPOSED ACTION

The proposed action would treat vegetation and riparian areas to move this area toward the desired future condition, while attaining some of the specific Forest Management Objectives and related improvement projects (Forest Plan, chapter 4, page 4). The proposals are tentatively planned for implementation in fiscal years 2010

and 2011, and would utilize prescribed fire in the project analysis area. This project analysis area would provide up to 60,000 hundred cubic feet (Ccf) (30,000 Mbf) of wood products. The proposed action is analyzed in chapters 2 and 3 as alternative B.

To reduce some of the impacts of this project, the following recommendations would be adopted at the beginning of the project:

- ✓ Protect water quality of streams and lakes through project design; and
- ✓ There should be no net increase in miles of National Forest System roads.
- ✓ No project activities would occur in any Forest Plan designated roadless areas or in unroaded areas greater than 5,000 acres in size.
- ✓ No project activities would occur in designated recovery areas for woodland caribou or gray wolf, or in primary Canada lynx range.

The proposed action would include:

- Prescribed jackpot and/or broadcast burning of approximately 3,760 acres to eliminate unwanted vegetation and reintroduce a historic disturbance regime. This would also reduce fuels in areas where property damage could be incurred by high-intensity (stand-replacing) fires. Other fuels treatments proposed include mechanical fuel reduction treatments[10] on approximately 2,324 acres, and precommercial thinning on approximately 624 acres.
- Timber harvest within MAs 5, 6, 7, and 8 to treat stands that are currently overstocked and/or highly susceptible to insect and disease attack. The silvicultural prescriptions on MA 5 and 6 lands would be compatible with visual quality objectives. Management on MAs 6 and 8 lands would be compatible with management for big-game winter range. Up to 4,647 acres could be treated within the areas proposed for treatment. See appendix A and appendix B for maps and additional information on where these treatments would occur.
- Ground-based logging systems are expected to be used for yarding the majority of the sale area. Some helicopter and skyline logging systems would be used in more remote areas. See appendix A and appendix B for maps and additional information on where these treatments would occur.
- Approximately 3.2 miles of new specified road construction, and approximately 4.4 miles of temporary road construction, are needed to improve access for the proposed timber harvest in alternative B. Approximately 11.9 miles of existing system road could receive light (occasional drain dip construction with associated light blading and brushing) reconstruction, and approximately 7.7 miles of existing system road could receive medium (includes “light reconstruction” plus the occasional clearing of vegetation; excavation of cutbank and roadbed for additional width to accommodate the vehicles used for commercial harvest activities, embankment construction and culvert replacement and installation) reconstruction. There are potentially three new rock sources within the analysis area that would be economical for development. These sites could be used to provide material for road construction, reconstruction, or maintenance.
- Approximately 13.4 miles of existing road are planned for removal from the Forest transportation system. These roads would be decommissioned and/or obliterated. (See map in appendix B for specific road locations.)
- Approximately 3.23 miles of FR 1935000 (Middle Branch Le Clerc Road) is proposed to be relocated to an upland area west of its present location. Existing and proposed locations are shown on maps in appendix B. This project includes:
    - the construction of a bypass road in sections 16, 20, 21 and 29,

[10] Mechanical fuel treatments include machine/grapple piling, mastication, and biomass removal. See appendix A and appendix B for maps and additional information on where these treatments would occur.

- The obliteration of the existing riparian road in sections 16, 20, 21, and 29, plus the replacement of the twin culverts on FR 1935115 (the Hanlon cutoff road) with a bridge in the NE ¼ of section 29, T. 36 N., R. 44 E., and
- Removal of additional four culverts along the length of the road obliteration (removes blockages to fish passage).

- West Branch Diversion Dam Sediment Reduction - the project area comprises approximately 500 feet of the West Branch of Le Clerc Creek above a 1920s era diversion dam. The location of this project is in T. 36 N., R. 44 E., NW ¼ of Section 8. The project would use a portable suction dredge and move sediment captured by the dam onto an adjacent terrace along the creek. This material would be stabilized through planting, seeding, and the temporary use of silt fence. The objective is to allow the dam to continue to collect downstream sediment and limit the amount of embeddedness of substrate in the portion of the stream below the dam.

  The dam would remain untouched. No new road construction or reconstruction would occur and no other machinery is proposed. Any activity within the stream would comply with Forest BMPs and the requirements of the HPA[11] from the Washington Department of Fish and Wildlife and would occur during low flow periods from July 1 through August 31.

- Diamond City Stream Channel Restoration - the project area includes approximately 0.1 mile of the West Branch Le Clerc Creek. The location of this project is in T. 36 N., R. 44 E., NE ¼ of Section 18. The project would place a section of the West Branch back into its original stream channel and away from eroding streambanks and cultural sites. This activity may require placement of instream wood and/or rock at various locations, removal of streambed material, and the reshaping of existing streambanks. The objective would be to improve the complexity of existing fish habitat, stabilize the stream channel, reduce sediment input, and protect cultural resources. No new roads or road reconstruction would occur. The project would utilize heavy equipment such as backhoe and/or an excavator. Some riparian vegetation would be removed during this project. Any disturbed site would be revegetated with native riparian vegetation where possible. Any activity within the stream would comply with Forest Best Management Practices (BMPs) and the requirements of the HPA from the Washington Department of Fish and Wildlife and would occur during low flow periods from July 1 through August 31.

- Riparian exclosures would be constructed to protect stream segments throughout the project area that exhibit over-utilization by livestock. Riparian vegetation would be supplemented with plantings grown from local seed sources or with cuttings from local stock.

- User-created trails at Yocum Lake would be closed and rehabilitated to improve sanitation, reduce sedimentation, and improve vegetation along the lake shore.

- Wildlife habitat enhancement projects including aspen maintenance/protection (encourage reproduction of aspen pockets), forage seeding (supplement green forage for wintering big game), meadow maintenance (remove encroaching, non-merchantable size conifers and burn meadows to rejuvenate grasses and improve forage), and installation of animal resistant food storage containers for dispersed campers.

- Any areas needing regeneration would be planted with species that are more fire tolerant and resistant to insect and disease outbreaks.

- Areas within riparian-influence zones would also be planted with spruce, or advanced regeneration of hardwood species, western redcedar or western hemlock would be released to encourage development of species that generally have longer life spans than lodgepole pine.

SCOPING THE ISSUES

The Forest Service used multiple methods to determine the major issues that would affect the decision on this project. In summary, the Forest Service involved members of the public, Tribes, interested private groups, and State and Federal agencies by doing the following:

[11] Hydraulic Permit Application

- Publishing a News Release requesting public comment in the Colville Statesman-Examiner.
- Listing the project in the "Projects" newsletter (Schedule of Proposed Actions), which is published quarterly by the Colville National Forest. This project was first published in January 2009 (Volume Seventeen, Number Two).
- Sending a letter to landowners whose property is within or adjacent to the project analysis area.
- Sending a letter to individuals or groups having Special Use permits within the project analysis area.
- Collaborating with the Northeast Washington Forestry Coalition (NEWFC).
- Holding public meetings to discuss the proposed projects with interested members of the public. The first meeting was held at the Kalispel Tribe's Camas Center in Usk, WA on August 28, 2008, and the second meeting was held at the same location on October 28, 2008.
- Requesting consultation with the Kalispel Tribe of Indians, the Spokane Tribe, and the Confederated Tribes of the Colville Reservation.
- Meeting with representatives of the Kalispel Tribe of Indians to identify and incorporate issues of concern to the Tribe.

Letters mailed to adjacent landowners, special use permittees, and other parties on the Forest Service mailing list included a map and a description of the proposed action for their review and comment. Information compiled during this environmental assessment is included in the analysis file for this project.

Collaboration

The Forest Service collaborated with the Kalispel Tribe, the Northeast Washington Forestry Coalition (NEWFC), the range allotment permittee, the Pend Oreille County PUD, adjacent landowners, and other interested individuals on the Hanlon project.

The Kalispel Tribe met with specialists from the Hanlon interdisciplinary team (IDT) on 4/23/2007, 9/24/2007, 2/6/2008, 4/24/2008, 8/28/2008, 10/27/2008, and 1/22/2009 to discuss the project and share information about the proposed treatments. During the collaboration meetings with the Kalispel resource specialists the following primary issues were discussed and added to the proposed action:

- Move sections of the Middle Branch Le Clerc Road (FR 1935) away from the stream to reduce sediment input and improve fish and wildlife habitat.
- Remove or replace culverts that are blocking fish passage in Middle Branch Le Clerc Creek.
- Relocate stream at the Diamond Match site back to its original location to meet water quality and fish habitat concerns now occurring due to bank erosion.
- Manage and rehabilitate the shoreline along Yocum Lake to protect water quality and existing Common Loon use of the lake.
- Treat lodgepole pine stands and manage area to re-establish mixed species stands that include early seral species and reduce areas of monoculture habitat.
- Convert some areas of lodgepole pine to mixed species stands that include other early seral species like western white pine, western larch & ponderosa pine which are important to Tribal heritage.
- Reintroduce burning into the area to encourage development of stands with fire-tolerant species, move area toward historic role of fire, and reduce current fuel levels.

The NEWFC group includes mill workers, conservationists, business owners, loggers, and foresters. The purpose of this group[12] is to:

- design and implement forest restoration and fuels reduction projects that demonstrate innovative approaches to forestry.

[12] http://www.newforestrycoalition.org/

- demonstrate how a diverse coalition of stakeholders can work together to successfully promote restoration forestry and community protection from wildfire.
- use the projects to educate the public about the ecological and socio-economic benefits of restoration forestry and fuels reduction strategies.
- develop model forest restoration and fuels reduction projects that can be emulated in other regions of the country.

On September 22, 2008, NEWFC formally requested to collaborate with the Forest Service on the Hanlon project, with a goal of "reaching a high level of support for each and every project through cooperative interaction with the Colville National Forest (CNF) staff". In an effort to better understand the treatment proposals, various members of NEWFC met with the Forest Service at formal meetings (on 10/27/2008 and 7/2/2009 in the project area, on 1/22/2009 at the Camas Center, and on 9/1/2009 and 9/11/2009 at the Newport Ranger District Office) to discuss the project, and treatment information was exchanged over the course of project analysis work to clarify issues and attempt resolution of differing opinions.

During collaboration meetings with NEWFC three primary issues were discussed. The following provides a summary of the discussion. Complete documentation of the collaboration discussions can be found in the project file.

New system road construction – the concern was that the Forest Service has more roads to maintain than money or resources to maintain them as well as the effect of roads on various resources. NEWFC members wanted the Forest Service to either reduce or have no net increase in road mileage as a result of the Hanlon projects. This concern was resolved as the Hanlon project was designed to meet the Grizzly Bear Recovery Plan and Amended Biological Opinion for the Colville National Forest Plan and would result in a net decrease in system road miles.

Residual stocking in intermediate harvest (commercial thin and selection) units – the concern was that the Forest Service retain sufficient trees following harvest activities to meet aesthetic values of their member groups. The suggestions from NEWFC members included meeting a minimum stocking level, maintaining trees throughout the proposed harvest unit, and minimizing the size and distribution of created openings (defined by NEWFC as areas with no trees) in all units proposed for commercial harvest activity. NEWFC members and IDT members met both in the office and in the field to discuss specific treatments and options. Where the IDT had unit-specific residual stocking information, that information was provided to NEWFC members for their review. Most unit prescriptions for intermediate harvest units would meet the intent of the NEWFC draft stocking guidelines. Those units with prescriptions designed to retain fewer trees per acre than listed in the NEWFC draft guidelines were discussed. Information as to why some units would not meet the draft guidelines (species composition, presence of insect or disease issues, insufficient stocking of desirable trees, etc.) were provided to NEWFC members and the unit prescription remained as proposed. Other unit prescriptions were changed to retain additional trees, which resulted in meeting the draft guidelines.

Residual stocking in regeneration harvest (shelterwood) units – the concern was that the Forest Service keep regeneration units to a size and distribution that would meet NEWFC guidelines for visual desirability as well as meet a minimum number of residual trees per acre.

Due to the high concentration of lodgepole pine with height-diameter ratios greater than 100 and crown ratios less than 40%, agreement was reached that proposed treatment units in this project would not all meet the residual stocking levels desired by members of NEWFC. The Forest Service agreed to remove areas from proposed units (no-cut areas), leave pockets of trees as well as individual trees; try to distribute trees designated for retention throughout the proposed units; and to retain the larger, fire-resistant trees in the units proposed for shelterwood harvest. These agreements are reflected in the unit-specific treatment prescriptions[13] and unit-specific guidelines agreed to by both Forest Service and NEWFC[14].

The Forest Service agreed to look at ability to meet the unit size guideline, which would fit with other resource needs. The distribution of the regeneration units across the landscape is an on-going discussion between NEWFC and the Colville National Forest. Any shelterwood unit proposed as part of the Hanlon project would

[13] Unit-specific prescriptions are located in the Hanlon project file.
[14] Unit-specific guidelines are located in Hanlon EA appendix A.

meet Forest Service requirements and guidelines for wildlife, scenery management, fish habitat, and other resources.

The IDT also worked with the range allotment permittee to ensure that issues or concerns related to permit administration would be addressed. The permittee wanted to make sure that any reductions of natural barriers created by project activities would not change the accessibility of new areas to his cattle and existing range allotment improvements would be protected. He was also concerned about maintaining access to one of his holding corrals. The IDT members reviewed these concerns with the permittee on the ground and included the following in the design of the project:

- Existing range allotment improvements would be protected from damage, which may result from harvest and burning activities, in any resulting contracts or force account projects.
- If natural barriers to livestock are breached by the proposed activities, fencing would need to be constructed to limit livestock dispersal specifically where prescribed fire activities occur near RHCAs.

COMMENTS RECEIVED DURING SCOPING

A District Interdisciplinary Team (ID Team) identified issues to be addressed in developing alternatives for this area based on input received from adjacent landowners, other interested members of the public, and collaboration meetings with members of NEWFC and the Kalispel Tribe. During scoping the following comments and concerns were received from members of the public.

Fuel Treatment – the following issues/comments were incorporated into alternative B and analyzed in the fire/fuels report: Treatment of fuels was identified as a need for the Hanlon project area.

- I suggest that you read the research results of Dr. Jack Cohen, a research physical scientist employed by the USDA Forest Service.
- There is absolutely no credible science that recommends that logging trees (a.k.a. fuels reduction activities) even ¼ mile from the urban interface is effective in reducing human structure losses from wildfire!
- I will expect Ranger Buehler's NEPA document to analyze in detail alternatives that remove fine fuel from the urban interface if the structure on private land is within 40 meters (approx. 130 feet) from public land.
- When the final EA is released, please include the following:
    1) The current population of Diamond City, Lost Creek and Blueslide, plus the number of human dwellings at each location.
    2) The results of your fuels transects and when they were run.
    3) Your justification (including calculations) for how you determined that Diamond City, Lost Creek and Blueslide were within the urban interface.
    4) According to my calculations, Blueslide looks to be 3 to 4 miles from your project area, Lost Creek is at least 1/2 mile from a small isolated section of your project area. These are both outside the urban interface as defined by the USFS. Please include a special section in your EA advising the public that your project does not comply with the recommendations of Dr. Jack Cohen and why? I will expect this special section to include the qualifications of Dr. Cohen.
- If you display similar maps in the upcoming EA (as done for the Coeur d'Alene River Ranger District), it should help disclose fire risks in the Hanlon area in a manner that is informative to the interested public.
- We also request consultation on areas where the District may be contemplating broadcast burning without prior mechanical treatment in areas adjacent to forested state trust and private lands.
- I agree with Forest Service proposal. Fuel treatment is needed in the area, and feel Forest Service should proceed with the project.

- A major concern are the types of slash disposal systems that would be used on this project. Piling and burning is, for lack of a better word, archaic. Mastication is a better method for fuel and slash reduction, but other methods should be and need to be considered.

Wildlife Habitat Improvement – effects to management indicator species and threatened, endangered & sensitive species are analyzed in the Management Indicator Species report or Biological Evaluation. Improving habitat for big game was identified as a need for the Hanlon project area and was incorporated into alternative B.

- Put more emphasis on Deer, Elk, and Moose habitat improvement especially in these elevation ranges, I know you must consider T and E species but it seems that our local big game species get overlooked.
- I agree with you that this project area has more cover than necessary and would encourage you to increase the amount of forage for these big game animals.
- You should use the largest opening size that you deem possible, as I don't think that thinning will generate the quality of forage that is necessary.
- Moose populations will start to decline if we don't provide more forage for them.
- The EA should disclose how habitat in the project area is contributing towards viable populations of MIS and TES species within and beyond the project area.
- Cumulative effects to grizzly bears must include activities on private timber lands and residences in the bear unit. Analysis must include TMRD [15] and OMRD to compare this bear unit with others in the SMGBE[16].
- Since the USFS contends that there is no old growth in the analysis area, recruitment old growth should be provided. Moist and Wet site old growth recruitment stands should be located in fire refugia. Fire refugia should be mapped and displayed in the EIS. Faulty placement of pine martin/pileated woodpecker patches will compromise their integrity over the long term.
- Due to the large scope of this proposed sale, its location in grizzly bear, lynx and caribou recovery areas, the proposal for additional road construction, activities associated with the allotment, private residences and private timber lands, an EIS is clearly required. (*This project is located outside lynx management units and the woodland caribou recovery area.*)

Economics/Infrastructure – the following issues/comments were incorporated into the economic, logging system and silviculture analyses. Support of local infrastructure and economy was identified as a need for the Hanlon project.

- I support aggressively treating this entire area you have proposed because NEPA has become very cost prohibitive and challenging, as you know it will be very difficult to add in something that changes or a missed opportunity.
- Harvest enough timber to pay for all the work that you want to get done out there either in stewardship contracts or timber sale contracts.
- Manage responsibly with adjacent land owners through collaboration with those owners and try to meet their concerns and objectives. Actively seek out their ideas.
- These projects are needed in terms of our region's forest health and for our economic health. We very much look forward to working with the District folks on projects like this in the future.

Forest Health/Stand Management – the following issues/comments were incorporated into the silvicultural and fire/fuels analyses as part of alternative B. Providing for a healthy sustainable forest was identified as a purpose for the Hanlon project.

- I would like to see no diameter limits on cut tree size other than what you have in the forest plan.

[15] TMRD = total road density; OMRD = open road density
[16] SMGBE = Selkirk Mountain Grizzly Bear Ecosystem

- We ask that your proposal utilize ecological sustainability as the guiding principle in designing management proposals.
- We ask that you consider these key components as you define “desired conditions” or “natural conditions” for the Hanlon area (from prominent conservation biologist Reed Noss paper entitled Biocentric Ecological sustainability)
- Please keep in mind that insects and tree diseases are a part of a healthy, functioning ecosystem and in fact the structural conditions resulting from tree mortality (snags, coarse woody debris, canopy openings) are vital for wildlife, soil productivity, and forest successional processes.
- We request that, to the extent possible, prescriptions for units within the Hanlon project area reflect the extent of common ground reached by the Colville NF and NEWFC on broad scale prescriptive approaches.
- We write in support of active, responsible management to improve forest conditions within the Hanlon project area and urge the District to proceed expeditiously with the project’s planning and implementation.
- Treatments in the Hanlon project area should therefore be designed in consideration of their proximity to future private land activities around homes, structures, and on nonindustrial forestland.
- We express a strong level of support for integrating WUI and insect infestation risk reduction in the Hanlon fuels reduction project’s purpose and need.
- Consider the landscape-scale risks, weighing any necessary short-term departure from visual objectives against the prospective long-term effects from catastrophic events.
- Absent from the discussion of resource concerns to be addressed in the proposed action…… the restoration of seral sub-climax species composition as defined by plant association group.
- We have a concern with lodgepole leave trees within shelterwood, thinning and seed tree cuttings due to the age and condition of the lodgepole. They are not going to survive and therefore will only add fuels to the ecosystem. As this is a fuels management project, that makes little sense. We do promote the planting of seral species in these units (larch and white pine).
- The Forest Service is being encouraged to utilize biomass and it seems that nurturing a slash and fuel removal system (of which there are many in this region) would be a much more responsible and futuristic role to play.
- Regeneration harvest units should follow guidelines to reduce unit size, limit distribution across the landscape, and provide for retention of a minimum of 20 overstory trees per acre.

Range allotment administration – the following issues/concerns are incorporated into alternative B and analyzed as part of the range management report.

- Primary concern is the proposed relocation of the Middle Branch Le Clerc road (FR 1935) as it relates to their ability to manage cattle on their range allotment. They could potentially lose access depending on how the section of FR1935 is relocated. They need an area large enough to gather the cattle, and to hold them, until the cows are moved off the allotment at the end of the grazing season.
- If the Forest Service specialists are considering restricting access to that specific piece within the planning area, they would like to see the road (whether in current or a new location) gated rather than totally removed so they could still utilize that location for a holding area.
- The effects of the existing allotment to vegetation must be included in the scientific based analysis required by NEPA.

Road management – the following issues/concerns are incorporated into the analysis for alternatives A (no action) and alternative B (proposed action)

- Concern with the project is the proposal to close roads to motorized access. He feels this limits access for those individuals that have physical limitations.

- When Forest Service restricts public access, Forest Service does a disservice to the agency by not letting the public see the good projects done on Forest Service lands. He understands the need to coordinate needs of the different resource areas, but feels Forest Service really needs to look harder at keeping some of the roads open for general public access.
- We also have concerns about improperly located roads. We do encourage the closure and/or obliteration of those roads, even if it is necessary to construct new roads that are watershed friendly for continued management of the forest.
- Road obliteration next to Le Clerc Creek is a positive step. I suggest the road be reclaimed and not just obliterated. This would involve contouring the road prism to the slope and planting with native plant species (USFS grass mix is an unacceptable alternative) and restoring site-specific soil productivity and hydrology.
- The "replacement" road is unacceptable. The replacement road will result in additional displacement to grizzly bears, since disturbance to grizzly bears will continue from the existing allotment. An existing road should be used or upgraded through an agreement with Stimson Lumber.
- The "replacement" road segment will result in permanent loss of productive grizzly bear habitat.
- A better designed replacement road will increase use of the road and increase risk of mortality to the grizzly bears.
- Would like a decrease or no net increase in system road miles within the Hanlon project area.

Off-Highway Vehicle and Equestrian Trails – The following issues/comments were incorporated into an alternative that was considered but not analyzed in detail (chapter 2, page 17).

- Before you close or propose to close any roads in this project area I encourage you to collaborate with OHV users and other interested users in separate Travel Management meetings, I think that could be part of this process but it might be easier to do them separate. This is becoming more of an issue both for the users and you as a manager and I propose a more in depth analysis with more specific public involvement.
- Perhaps the Forest Service should take a more active approach to educating the public on user created trails and recreation areas, this activity is telling me that there is a shortage of this type of use and maybe the FS should find out what the needs are instead of saying no you can't do that.
- I attended the Hanlon Meadows discussion at Usk recently and was glad to hear that there is a possibility of having this available to equestrians. We really do need more riding areas closer to Spokane.
- I am writing to urge that Hanlon Meadows should be considered for the site of an equestrian center.
- Would like Hanlon Meadows designated as an equestrian trailhead.
- Would like Hanlon Meadows used as a horse trailhead.
- Want to express support for the project and the returning of Hanlon Meadows to equestrian use.
- This is an area that has been used for horse camping in the past. Benefits include a good meadow with surrounding tree line for high lining horses. There is also a good stream for horse water. These natural features support the development of a horse trailhead. Our chapter is interested in working with the forest service to develop the Hanlon Meadows trailhead and supporting trails.

Other – the following comments could not be grouped, and responses to the individual comments are listed in italics immediately following the comment.

- The Hanlon timber sale is illegal. Your Hanlon timber sale violates several current and future laws of the United States. The USFS is preparing to break the law and violate the public trust. *Management direction is listed in the EA on page 1.*
- Hold public meetings to educate the people (using Dr. Cohen's recommendations) about protecting their structures from wildfire on private land. *Public meetings were held regarding treatment on National*

Forest System land within the Hanlon project area (EA page 6). Public meetings regarding treatment of fuels on private land are coordinated through other means (e.g., www.firewise.org).

- Manage road density for human access and the major wildlife populations. *Road management within the Hanlon project area was analyzed within the Hanlon Roads Analysis and as part of alternative B. Effects are displayed in the transportation report, management indicator species report and biological evaluation.*
- Sounds like a good project.
- Please include an alternative that brings project area streams into a fully functioning condition, including riparian and stream habitat conditions that support viable populations of native fish species. *Improvement of fish habitat was identified as a need for the Hanlon project area and was included as part of alternative B.*
- The EA should fully analyze current soil conditions in the project area watersheds, and disclose how proposed management activities will cumulatively affect soil productivity and hydrological functioning of the watersheds. *Analysis of soil conditions and effects are displayed in the Hanlon soil report; analysis of hydrologic conditions and effects are displayed in the Hanlon hydrology report.*
- Please perform an analysis of how previous actions accomplished (or possibly failed to accomplish) previous projects' goals. This should include results of monitoring and mitigation specified in previous NEPA documents. *Analysis of cumulative effects is displayed in individual resource reports*.
- We concur with the County's assessment of importance for treatment of Forest Service land in the Hanlon project area.
- We encourage the District to consider developing the project under HFRA authorities. *The Hanlon project does not meet all regulatory requirements to be completed under HFRA authorities.*
- Healthy Forest Restoration Act authorities and goals of the Pend Oreille County CWPP should be incorporated alongside those of the National Fire Plan. *Goals of the Pend Oreille County CWPP are incorporated into alternative B (EA page 1); the Hanlon project does not meet all regulatory requirements to be completed under HFRA authorities.*
- By moving that segment of FR 1935 so far away from the creek, it removes a scenic drive and limits public access to the creek for fishing and camping. Previous work on this road created a lot of the existing damage, and the Forest Service should look at other options for maintaining this road so we don't remove access to a nice area for those wanting to drive through/along something other than trees and don't remove access to those wanting to fish the creek. *Effects of not relocating FR 1935 are displayed as part of alternative A. Effects of implementation (alternative B) to scenery are displayed in the scenery management report; effects to recreation are displayed in the recreation report.*
- This is a good project, and Forest Service should promote the need for, and positive benefits of, the project with the public.
- In favor of the Hanlon Timber and Fuels Management Project. We are especially interested in seeing Diamond City listed on the National Register of Historic Places and would give you our support in this project. *The process of proposing Diamond City area for listing on the National Register of Historic Places is completed as a separate process and not part of the purpose and need for the Hanlon projects.*
- I am writing to express my strongest opposition to a proposed logging operation in the Le Clerc Creek Drainage. *Effects of not implementing harvest activities is displayed as part of alternative A.*
- Timber harvest should be used to restore (in the purest sense) the habitat and provide for the opportunity to maintain that habitat through process based restoration after only one initial harvest.
- Using the term "Vegetation Management" instead of "Timber Management" is flawed and doing a disservice to your District and the Public. *Effects to non-tree species is analyzed as part of the individual resource reports.*
- Elimination or buying out the allotment would do a lot to reduce disturbance to bears and vegetation. *Changes to the range allotment permit is not part of the purpose and need for the Hanlon project.*

- Forest should display effects to water quality and quantity from proposed activities. *Effects to water are analyzed in the hydrology report.*

Resource Concerns

The following concerns raised by the Forest Service interdisciplinary team analyzing this project and members of the public are discussed in depth in this environmental assessment:

- Reduce current and future fuel levels adjacent to other ownerships;
- Protect water quality in Le Clerc Creek drainages;
- Improve riparian areas to improve bull trout habitat;
- Move elk winter range habitat closer to the Forest Plan objective of 50 percent cover, 50 percent forage (cover:forage ratio of 50:50);
- Manage grizzly bear habitat according to direction in the Grizzly Bear Recovery Plan and Amended Biological Opinion for the Colville National Forest Plan;
- Manage road density as it affects fragmentation or seclusion (grizzly bear habitat);
- Delineate core habitat areas for old growth associated species habitat and travel corridors;
- Thin overstocked stands which exhibit decreased vigor and increased susceptibility to insects and diseases;
- Thin or regenerate extensive areas of lodgepole pine that are reaching age, size, density and condition that make them highly susceptible to insects, diseases, and/or wind damage;
- Protect visual quality as seen from Washington State Highway 20;
- Incorporate objectives of the National Fire Plan and Pend Oreille County CWPP;
- Treat known noxious weed populations;
- Prevent additional cattle access to streams and wetlands;
- Protect existing range allotment improvements;
- Protect soil resources – reduce or minimize compaction, sedimentation, displacement and erosion;
- Develop plan to meet Kalispel Tribe desire to reduce area of lodgepole pine monoculture while meeting NEWFC guideline to limit regeneration harvest.
- Reduce effects of unmanaged dispersed recreation (e.g., sanitation concerns; user-created OHV trails) on natural resources;
- Analyze effects on public access (e.g., Yocum Lake) from potential road closures; and
- Develop transportation system management plan given the presence of cost-share roads and intermingled ownership.

Purpose and Need Objectives

Major project objectives that will be used to design and compare the alternatives presented in Chapter 2 are as follows:

Purpose and Need Objective #1 – Reduction of Hazardous Fuels

Fire as a natural process, through suppression efforts, has been removed from the ecosystem. Tree encroachment and high fuel loads are common, especially in the drier biophysical environments[17]. Fires

[17] Biophysical environments represent potential natural vegetation association groups with similar fire ecology regimes.

that burn on these sites in the future will be of higher severity and result in mortality of larger trees than historically occurred. There is a need to reduce hazardous fuels for the purpose of reducing the risks of large, stand-replacing fires, as well as reducing the chance of fires damaging private property, and return fire regime stand condition class back to a historical range within the analysis area.

Comparison Criteria – Acres of priority stands commercially and noncommercially treated to manage existing and potential risk of stand-replacing fires.

Purpose and Need Objective #2 – Forest Health

Effective fire suppression and past selection cutting has altered the structure and composition of many of these stands. These stands are overstocked, show signs of low vigor, and provide a climate for susceptibility to wide-spread storm (wind and snow) damage and continued concerns for insect and disease outbreaks.

Comparison Criteria – Acres of priority stands commercially and noncommercially treated to promote development of late and old structure, and to manage existing and potential risk of insect and disease outbreaks.

Purpose and Need Objective #3 – Improve riparian habitat conditions that affect fish habitat

There are areas that do not currently meet direction listed in the Inland Native Fish Strategy due to inappropriately –sized culverts for fish passage, lack of canopy, current road locations, and unmanaged dispersed recreation (e.g., user-created OHV trails and campsites). Restoring stream locations, improving fish passage, reducing sediment input, and improving structure and species mix within Riparian Habitat Conservation Areas (RHCAs), would improve water quality and fish habitat in a watershed designated to be managed for bull trout habitat.

Comparison criteria – number of blockages to fish passage removed and miles of road currently located within RHCAs decommissioned or obliterated.

Purpose and Need Objective #4 – Improve Terrestrial Wildlife Habitat

The project area contains about 4,006 acres of designated elk winter range (Forest Plan Management Areas 6 and 8). Within these areas, there are a few stands on more sheltered aspects that are providing thermal cover. The majority of the winter range is providing hiding cover for big game. Current cover:forage ration in the Hanlon project area is 76:24 which does not meet the Forest Plan goal of 50:50. There are not enough productive foraging sites to meet Forest Plan standards.

Comparison Criteria - Percent increase in acres with improved forage quality and quantity. Comparison with Forest Plan standards.

Purpose and Need Objective #5 – Support Community Structure

During public meetings, the local community and Kalispel Tribe requested the Hanlon projects be implemented in a manner that would return portions of the area to a condition conducive to reinstituting historical Tribal uses and maintain the local infrastructure (e.g., roads and businesses). Options proposed included utilizing timber or stewardship contracts to implement forest management activities. Having economically feasible projects would provide jobs in the communities and provide methods for completing restoration projects that are high priority for the Kalispel Tribe (e.g., fish habitat improvement, restoration of early-seral tree species).

Comparison Criteria – number of service, timber sale or stewardship contracts proposed as a method of implementing any proposed projects.

DECISION NEEDED

The decision needed from the Colville National Forest Supervisor, the responsible official, is whether to implement the entire project proposal or portions of these projects to meet management direction as stated in the Forest Plan.

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CHAPTER II ALTERNATIVES CONSIDERED

INTRODUCTION

This section describes the alternatives that were developed by the Interdisciplinary (ID) Team in response to the issues identified. The team identified a reasonable range of alternatives and then evaluated potential environmental impacts of the various proposals (see chapter 3). All alternatives are consistent with the Forest Plan as amended, including Regional Forester's Forest Plan Amendment #2 and the Inland Native Fish Strategy Environmental Assessment (EA).

Table 1 on page 37 uses the comparison criteria for each purpose and need objective identified in chapter 1 on page 14 to compare alternatives. A detailed discussion of effects by alternative is contained in chapter 3 and the analysis file. Measures required to mitigate the effects of this project are also presented in this chapter.

Alternatives Considered and Eliminated from Detailed Study

Federal agencies are required by the National Environmental Policy Act to rigorously explore and objectively evaluate a range of reasonable alternatives and to briefly discuss the reasons for eliminating any alternatives that were not developed in detail (40 CFR 1502.14).

The following alternative was developed by the interdisciplinary team early in the planning process in response to public comment and was subsequently eliminated.

Include Development of Recreation Trails: Several members of the public asked that the Hanlon project include development of equestrian and OHV trails along with fuel, vegetation, and fish and wildlife habitat improvement projects. The IDT reviewed the location and impacts of the proposed trails and determined this alternative would not meet the purpose and need defined for Hanlon, nor would it meet Forest Plan direction.

Forest Plan Standards and Guidelines state: "No new trails or access points will be developed that would tend to increase use in the Selkirk grizzly recovery area" (CNF Forest Plan page 4-41);

Direction in the Amended Biological Opinion for the Forest Plan stated the Forest is to "implement a road and motorized trail management program that regulates the density of total roads, open roads and open motorized trails within each BMU";

The Interagency Grizzly Bear Guidelines (page 15) state "The following uses, developments, or activities will be evaluated to determine their compatibility with grizzly habitat requirements:

(b) proposed trails (foot, horse, snowmobile and ski) and existing trails with frequent grizzly-human encounters." and

The Grizzly Bear Recovery Plan (page 109) directs the Forest to "Make recreation on Federal Lands compatible with grizzly bear habitat needs".

The wildlife biologist and the rest of the IDT determined the proposed equestrian trail system and OHV routes would not meet the intent of Forest direction for management of grizzly bear habitat. One proposed trail would be located within an area of core habitat for grizzlies. If it were used by OHVs, that use would impact core habitat. The trail would also lie in close proximity to the West Branch of Le Clerc Creek (spring bear habitat). Thus, there would be a potential for horseback riders to disturb foraging bears. These considerations were combined with other resource issues such as existing road density and distribution of suitable wildlife habitat that exist within the Le Clerc Grizzly Bear Management Unit (BMU) to make the determination that this alternative would not be analyzed in detail.

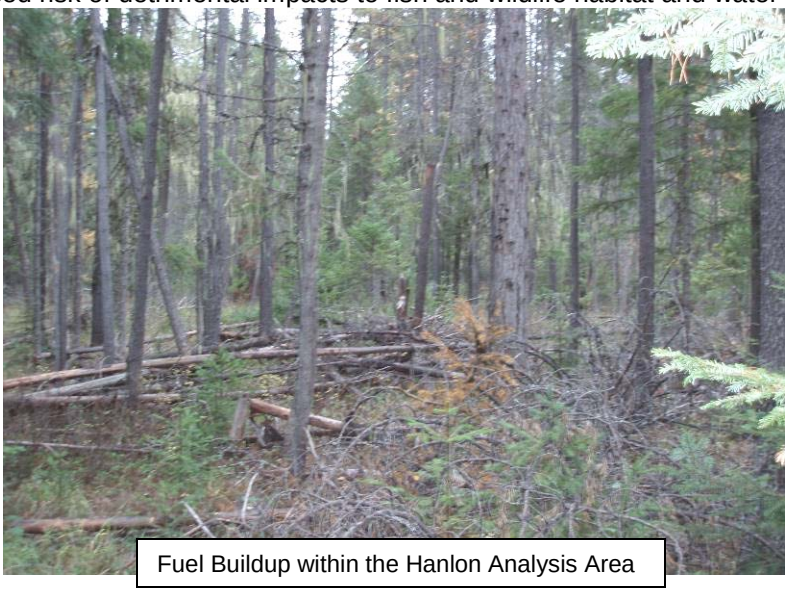
Alternatives Analyzed in Detail

1. Alternative A – No Action

The proposed action would not be implemented at this time under this alternative. However, existing, previously approved management activities would continue.

Purpose and Need Objective #1 – Reduction of Hazardous Fuels

A no action alternative would continue with a management policy of fire exclusion. This would result in no improvement in stand vigor and increased risk of detrimental impacts to fish and wildlife habitat and water quality. Stocking levels and crown fire potential would continue to increase. The shifts in composition away from the more open forest environment under the no action alternative would continue to stress the overstory fire-tolerant cohorts, and (at the landscape scale) would not move the fire regime condition class[35] (FRCC) 2 and 3 stands to the FRCC 1 target. Due to afforestation and in-growth of primarily fire-intolerant trees there is a relatively high conifer stocking creating high connectivity of both ladder and crown fuels. Fuels accumulations would continue to shift away from grass, brush, and hardwoods (fuel model[36] [FM] 2/5/9) to a condition favoring high levels of coarse woody debris, litter, duff, and ladder fuels (FM 10). During the inevitable wildfire event, higher fuel loads and crown fire hazards would increase fire suppression costs and the associated risks to both firefighters and the public. Under this alternative no fuels treatments would occur and no mortality would occur as a result of either mechanical fuel reduction or prescribed fire treatments.



Fuel Buildup within the Hanlon Analysis Area

Purpose and Need Objective #2 – Forest Health

This alternative would result in no improvement in stand vigor and resiliency or moving the stands toward target condition on National Forest System lands. Lack of treatment over the project area leaves it susceptible to hot, uncharacteristically large fires, and insect/disease epidemics when in the past these were pulses that were limited in size or intensity. Smaller, less intense changes to the forest condition left suitable habitat for fish and wildlife and generally had low, long-term impacts to stream systems. The intensity and extent of a wildfire occurring under this alternative would remove large areas of vegetation which would negatively impact fish and wildlife habitat as well as increase sediment and temperature impacts to water quality.

Stagnated stands within the proposed project area, left untreated, would lack adequate crown and diameter development. Structural development would be delayed due to the suppressed or non-existent understory. No treatment would delay moving stands toward the historical range of variability. In treatment areas that have the potential to be moved toward structural stage 6 or 7 encroachment of more shade tolerant species have created a hazard due to the increased fuel loading and ladder fuels. Distribution of structural stages across the landscape support a diversity of overstory and understory plant

[35] FRCC is used to describe the degree of departure from the historic fire regimes that result from alterations of key ecosystem components such as composition, structural stage, stand age, and canopy closure.
[36] FM – Fuel Models are based on ground cover conditions (i.e. grass, shrubs, slash or other timber litter), and the amount of ladder fuels creating connectivity to the canopy, that describe fire hazard potential.

species which, in turn, supports long-term sustainability of the area. Lack of treatment, and thereby not addressing the need to develop late and old structure, would result in lowered resilience of the landscape to fire, insects, and diseases, and lowered resilience of habitat for wildlife populations to respond to changes.

Stands would not be sustainable as they continue to have a medium to high risk of stand-replacing fires. If a fire were to occur, many of the preferred early seral leave trees (i.e., western white pine, western larch and ponderosa pine) may be killed by the fire and the site would be delayed in moving towards stage 6 or 7. Natural fires may or may not burn under conditions that would thin out the smaller trees and would have limited control over residual tree spacing and species selection. High intensity fires can reduce soil productivity drastically and cause major changes in the hydrological and erosion processes (Hessburg and others, 1999). Severe fires can also cause stand destruction and create potential brushfields that may last for many years.

There are **seven structural stages** identified under the Regional Forester's Forest Plan Amendment #2: Revised Standards for Timber Sales on Eastside Forests (Lowe, 1995), also known as the "Eastside Screens". All structural stages are represented in varying proportions in the watershed. Structural stages 1, 2 and 3 are considered an early structural stage of stand development. Structural stages 4 and 5 are considered a middle structural stage. Structural stages 6 and 7 are considered late or old structural stages. Variations in structural stages are a result of fire, insects, diseases, harvest disturbances, weather (precipitation level, wind, etc.), and stand development.

There would be no silvicultural treatments to reduce stocking levels and improve stand vigor, improve the RHCAs or to plant early seral species such as white pine, western larch, and ponderosa pine. Conversion of stands to shade tolerant species would continue, increasing the future hazard to insects and diseases. Hardwood trees would continue to be out-competed by conifers and continue to be eliminated from the landscape. This alternative would not treat stands that occur along the urban interface to reduce the risk of insect, disease, or wildfire. The areas of mature lodgepole pine would continue to build up surface fuels as the trees die out and fall to the ground. No monitoring or stand improvement activities would occur. Within the next ten-year period the risk of insect outbreak and the risk of increased levels of disease are moderate to high. In the long term, the risk of insect outbreak in the next ten to twenty years would be approaching high. Forest health would decrease from no treatment.

Purpose and Need Objective #3 – Improve Riparian Habitat Conditions that Affect Fish Habitat

Watershed condition would not be directly affected as no new system roads would be constructed, no road improvements would be conducted, and no existing roads would be decommissioned in any of the watersheds. Existing blockages to fish passage would remain, sediment from road segments within the RHCA of Middle Branch Le Clerc Creek would continue to enter streams, and no additional restoration activities would occur. No vegetation treatment would occur adjacent to RHCAs to change the monoculture of lodgepole pine to mixed species stands that would provide improved canopy and woody material for the streams. No exclosures or rehabilitation work would occur to address OHV impacts to riparian areas.

Purpose and Need Objective #4 – Improve Terrestrial Wildlife Habitat

This alternative should have no immediate effect on big game or their habitats since no forest management would occur. Over time, certain younger stands of trees would mature and attain the necessary height and crown closure of thermal cover. Other stands that are over-stocked with trees are likely to stagnate and never develop a dense enough overhead canopy to provide thermal cover.

On National Forest System (NFS) lands, forage plants in plantations and open forest stands would slowly decline in vigor as growing conifers shade them out. Winter ranges in the project area would accumulate more cover, while forage would decline. Ground and ladder fuels would continue to accumulate in forest stands across the project area. The potential for a large, intense wildfire would increase over the long run. If such an event occurred, the resultant increase in sunlight on the forest floor would promote the growth of upland shrubs, grasses, and other big game forage plants. However, high-intensity fires have the potential to burn large expanses of forest and create very large openings. Species associated with forest edge habitats (such as big game) may make little use of the interiors of such large openings, owing to the absence of nearby cover.

Loss of forage habitat in the short term (encroachment of conifers into existing openings) would move the area further from the Forest Plan desired condition of cover/forage ratio of 50/50. A large-scale fire in the long term would increase acres of forage, but the large size of the openings would preclude full use of the areas by ungulates.

Purpose and Need Objective #5 – Support Community Structure

This alternative would not result in any stewardship, timber sale or service contracts that would implement projects proposed by the Kalispel Tribe or support local infrastructure. Early seral species would not be restored to levels closer to historic conditions.

Proposed Action Formulation

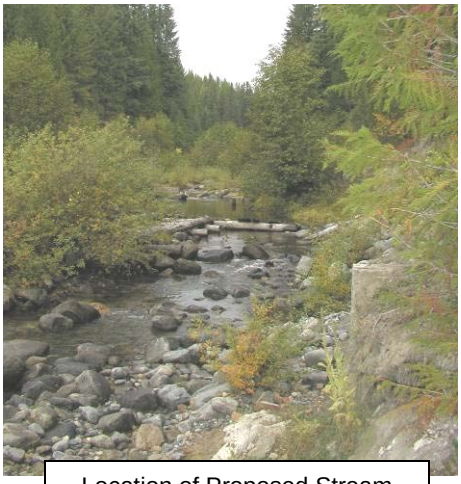
An Interdisciplinary Team (IDT) drew up a list of opportunities for fuel reduction projects in the Hanlon analysis area and presented them to the public in a public meeting and by letter. The meeting notes and public comments on the proposed opportunities were considered by the IDT during project development and used to narrow them down to a draft proposed action. This was followed by a field trip and another public meeting after which additional comments were received. Public comments, follow up collaboration, and specialist input were used to generate the final proposed action. Throughout the planning process issues raised by the public, other agencies and governments, County Commissioners, and the NEWF Coalition were screened to identify those that relate to potential impacts of the proposed action and are within the control of the Forest Service and scope of the project. These issues reviewed by the District Ranger are tracked throughout this document and the result is the alternative described below.

2. Alternative B (Proposed Action)

This alternative emphasizes Reduction of Hazardous Fuels, Forest Health, Improvement of Riparian and Terrestrial Wildlife Habitat conditions, and implementation of restoration projects proposed by the Kalispel Tribe. Both commercial (timber sales) and noncommercial (including mechanical treatments and prescribed fire) activities are proposed. Approximately 3.2 miles of specified road construction, 4.4 miles of temporary road construction, and approximately 19.6 miles of road reconstruction are proposed with this alternative. Approximately 13.4 miles of Forest Service roads were determined to be no longer needed for long-term management. Those roads are planned to be decommissioned (i.e., removed from the Forest transportation system) by either physical closure or obliteration. Removal of NFS roads in this area would benefit fisheries habitat and water quality as well as wildlife habitat. All new roads would be closed after the project is completed, per Forest Plan direction. Completion of all road-related project activities would result in a net decrease of 5.8 miles of road from the Forest Service transportation system.

Riparian habitat improvement projects include:

- relocating approximately 3.2 miles of the Middle Branch Le Clerc Road (FR 1935) to an upland area west of its present location, removal and replacement of culverts blocking fish passage, replacement of two culverts with a bridge, and obliteration of the existing riparian road;
- West Branch Le Clerc Creek diversion dam sediment reduction; and
- Diamond City stream channel restoration, which would include placing a section of the West Branch Le Clerc Creek back into its original stream channel and away from eroding streambanks and cultural sites.
- Riparian exclosures would be constructed to protect stream segments throughout the project area that exhibit over-utilization by livestock. Riparian vegetation would be supplemented with plantings grown from local seed sources or with cuttings from local stock.



Location of Proposed Stream Channel Restoration

- User-created trails at Yocum Lake would be closed and rehabilitated to improve sanitation, reduce sedimentation, and improve vegetation along the lake shore.
- Areas within riparian-influence zones (outside edges of RHCAs) would also be planted with spruce, or advanced regeneration of hardwood species, western redcedar or western hemlock would be released to encourage development of species that generally have longer life spans than lodgepole pine.

Terrestrial wildlife habitat improvement projects include:

- Aspen maintenance/protection – Small (non-commercial) conifers could be cut down within selected aspen stands to forestall the aspen trees from being shaded out over time. Selected aspen stands on the edges of meadows or near roads could be fenced to limit livestock browsing of young sprouts;
- Forage seeding - Shelterwood harvest units that are underburned could be seeded to supplement green forage for wintering big game;
- Meadow maintenance Small (non-commercial) conifers could be cut down where they are encroaching into old homestead meadows, in order to keep these sites in an open, productive condition for big game. Meadows could be burned to remove encroaching conifers and grass thatch, and to rejuvenate grasses; and
- Animal resistant food storage containers would be installed at West Branch Le Clerc Meadows, Hanlon Guard Station Meadow, FR 1935116 meadow, and FR 1935011 meadow.

Black Bears in the Hanlon Analysis Area

Currently there are no existing aggregate sources available for use in this analysis area. Commercial sources are available in the Ione and Newport area, but given the lengthy haul distances to these commercial and existing government sources, it would be desirable to locate and develop new sources that would economically serve this analysis area over the long-term to accomplish road construction, reconstruction, and maintenance activities. These rock sources could also provide rock material needed by Stimson Lumber Company for maintenance of their roads. Potential new sources of aggregate and riprap located in this analysis area are:

NE ¼ SW ¼ Sec. 18 T. 36 N., R. 44 E. (road 1933110) – long-term development could be up to 1.5 acres in size;

SE ¼ SW ¼ Sec. 18 T. 36 N., R. 44 E. (road 1933112) – long-term development could be 1 acre if developed as a small riprap site, or possibly up to 4 or 5 acres if developed as a crusher site;

SE ¼ SE ¼ Sec. 18 T. 36 N., R. 44 E. (road1935115), and NE ¼ NE ¼ Sec. 19 T. 36 N., R. 44 E. (road 1935115) – long-term development could be up to 3 acres in size.

Refer to maps in appendix B for proposed treatment locations.

Purpose and Need Objective #1 – Reduction of Hazardous Fuels

This alternative would help reverse the vegetative trend predisposing the Hanlon analysis area to larger, more severe wildfires than what historically occurred. Prescribed fire and mechanical fuel treatment would reduce the continuity of fuels and reduce fuel loads, which in turn would reduce the possibility of a large stand-replacing fire as well as reducing the potential threat of severe fires encroaching on adjacent private property. Fuels reduction through burning should result in a more open overstory and subsequent understory composed of a greater diversity of hardwoods, shrubs, forbs, and grasses. Overall, this should improve forage quality for wildlife, minimize encroachment of shade tolerant species, and promote a more fire tolerant overstory. Alternative B would treat approximately 6,084 acres with prescribed fire and mechanical fuel treatments. Table A1 in appendix A shows the method of fuel treatment recommended for each unit or stand in this alternative.

Purpose and Need Objective #2 – Forest Health

Alternative B would commercially treat approximately 4,647 acres that were identified for treatment due to forest health concerns. Noncommercial treatments would include precommercial thinning on approximately 624 acres and tree planting of approximately 912 acres with early seral species such as western white pine, western larch, and ponderosa pine.

Overall, 5,271 of 8,996 acres in the analysis area would receive some type of silvicultural treatment to improve stocking levels, stand vigor, and move the stands toward target condition and towards the historical range of variability of structural stages. High-density stands would be treated to reduce the future hazard of insect and disease outbreaks. Stands of overstocked lodgepole pine susceptible to storm (wind or snow) damage as well as susceptible to insect and disease outbreaks would be regenerated which would move the areas toward mixed, fire-tolerant species stands which can more easily move toward structural stage 6 and 7 (late and old structure).

Treatments would not occur in actual riparian vegetation but would occur in the upland portion adjacent to the riparian vegetation. Thinning from below within small areas of the RHCAs would increase diameters of leave trees to provide shade and future large woody debris and reduce the short-lived lodgepole pine component. Other areas would be treated to encourage development of existing advanced regeneration such as Engelmann spruce, redcedar, and hemlock. Table 10 in appendix A shows the silvicultural treatment recommended for each unit in this alternative.

Purpose and Need Objective #3 – Improve Riparian Habitat Conditions that Affect Fish Habitat

Limited timber harvest, new road construction, and system road reconstruction are proposed within the RHCAs of streams within the analysis area. Fuel treatment areas and rock sources for road construction would be located outside of existing RHCAs. Timber harvest is proposed in several units within the RHCA of the West Branch of Le Clerc Creek within the analysis area. No harvest would occur within the RHCAs of these units along any perennial fish-bearing stream unless the area is either separated from the stream by a system road or a topographic break within the riparian area. The objective of harvest in these portions of the RHCA is to maintain the function of the riparian vegetation to meet INFISH Riparian Management Objectives (RMOs) through the conversion of decadent lodgepole stands to areas of greater diversity of species and size. Fuels treatments shall be located outside of RHCAs with the exception of where harvest is proposed in the units along the West Branch.

Alternative B does not remove any riparian vegetation, through proposed harvest, needed for the purpose of providing bank stability, detritus, contribution of instream wood or overhead shading. Some minor removal of riparian vegetation and erosion through moderate reconstruction of a few road crossings of streams is not expected to affect RMOs due to the temporary nature of the sediment input and the minor amount of riparian vegetation that could be removed.

This alternative would produce some additional sediment primarily through the implementation of restoration activities such as road obliteration, culvert removal and replacement, instream structure placement and the removal of a diversion dam. The effect on pool habitat from this excess sediment should be minor since the restoration activities would be implemented on a schedule that would allow the watershed to flush out any additional sediment from one activity before the next one begins. This spatial separation of restoration projects is expected to reduce any cumulative effect from all of the proposed actions under this alternative.

The restoration activities, as mentioned above, would also start a trend on the Middle Branch of Le Clerc Creek to reduce high summer water temperatures (an RMO) through the reestablishment of a riparian area presently eliminated by an existing road. Instream structure placement on all branches of Le Clerc Creek would increase the number and quality of pools and large instream woody debris, which are also RMOs. Improvement in riparian and channel habitat should slowly decrease the bankfull width/depth ratios, another RMO.

For the reasons above, this alternative has not been found to retard the attainment of these RMOs in the long-term. In addition, with the implementation of BMPs and mitigation measures, the potential short-term effects of the project to inland native fish can be minimized and adverse effects can be avoided.

Purpose and Need Objective #4 – Improve Terrestrial Wildlife Habitat

Commercial timber harvest would remove or degrade forest cover. Shelterwood harvest would convert hiding cover to open forage habitat for 15+ years. Existing forage plants in these units should become more palatable and vigorous; particularly in units that are broadcast burned. Shelterwood harvest would create additional forest edge habitat. Alternative B would move the cover:forage ratio on elk winter range closer to the desired 50:50 (estimated to move it to approximately 63:37). If necessary, hiding cover blocks would be retained within the larger created openings to ensure that the distance to cover does not exceed 600 feet. Hiding cover would also be retained along open roads, where the opportunity exists.

Where commercial thinning and selection harvest prescriptions are used, hiding cover would be locally degraded for five years or more, and essentially removed for at least that long within new skid trails. Based on past partial harvests completed on the Newport-Sullivan Lake Ranger Districts, there should be enough understory vegetation retained to provide hiding cover at the stand level.

Commercial thinning and selection harvests would target the removal of suppressed, intermediate, and co-dominant trees. The fullest crowned and most vigorous appearing trees would be retained (including all large trees). There would be less inter-tree competition for light, water, and soil nutrients in the residual stand. These treatments should promote the development of larger, full crowned trees sooner than had no treatment occurred. High quality thermal cover could be developed in these stands over the long run.

Stands that are presently thermal cover (identified by the district wildlife biologist and district silviculturist) would not be harvested. Where pockets/inclusions of thermal cover at least three acres in size exist, they would be excluded from harvest.

Purpose and Need Objective #5 – Support Community Structure

Alternative B would implement projects proposed by the Kalispel Tribe to restore traditional use areas to historic conditions. The projects include restoring early seral species, improving fish and wildlife habitat, and improving water quality. This alternative also proposes using timber sale, stewardship, and/or service contracts to implement the projects, which would support local infrastructure.

Description of Proposed Project Design for Alternative B

The following design requirements are accepted practices that have proven effective in mitigating adverse effects of timber harvest and fuels treatment associated activities. These actions would be taken to avoid, minimize, reduce, eliminate, or rectify the effects of management activities (40 CFR 1508.22). Best Management Practices (BMPs) are methods, measures, or practices selected by the interdisciplinary team to meet nonpoint-source erosion control needs. Ground-based logging systems may include tractor and/or cut-to-length systems.

Fire/Fuels

1. To insure compliance with state and federal air quality standards, approved burning would be determined through monitoring and computer modeling of all scheduled and proposed emissions. Meteorological scheduling is often the most effective way to minimize direct smoke impacts to the public (Ottmar et al. 2001).
2. Develop burn plans so that the mineral soil surface is not oxidized to a reddish color and so that the forest floor litter and duff layer is retained over most of the burn area. Avoid detrimental soil conditions on areas greater than 100 square feet[37]. Maintain at least 30-45% effective ground cover after prescribed fire (FSM 2521.03). Develop prescriptions to retain a mosaic of soil cover conditions. *(soils)*
3. Develop burn plans so that some of the fine forest floor litter and duff layer is retained over most of the burn area, and so small unburned patches are retained. *(soils)*

[37] Soils are considered to be detrimentally burned when the mineral soil surface has been significantly changed in color, oxidized to a reddish color, and the next one-half inch blackened from organic matter charring by heat conducted through the top layer.

4. Revegetate disturbed areas. Review areas after the burn and seed large bare areas[38] with a high potential for sediment delivery to streams. Applies to all prescribed fire areas *(soils)*
5. Design tractor firelines to facilitate drainage (not long straight trails). Install cross-drain structures on all tractor firelines, and install on hand-firelines as needed. The following table should be used as a guide when installing waterbars or other dewatering features. *(soils)*

	Distance between waterbars (ft)			
Slope	High Erosion Potential		Low-Moderate Erosion Potential	
fireline	Compacted	Not Compacted	Compacted	Not Compacted
<15%	150	300	300	500
15-35%	100	200	200	350
35-50%	50	100	100	200
>50%	25	50	50	100

6. Unit 10: Leave slash on the ground for one winter prior to prescribed burning. *(soils)*
7. Units 1, 2, 93, and burn units B and Z: Develop burn plans so that some of the fine forest floor litter and duff layer is retained over most of the burn area. Maintain at least 60% effective ground cover in these areas after prescribed fire (FSM 2521.03). *(soils)*
8. Unit 23 (south ¾): Develop burn plans so that some of the fine forest floor litter and duff layer is retained over most of the burn area. Consider masticating some of the tops and branches to increase the amount of coniferous slash. If biomass is removed, retain some fine fuels. *(soils)*
9. Fuels treatment proposed within the area should be planned and implemented in such as way as to avoid impacts of fire or smoke on power transmission lines. *(special uses)*
10. Fireline construction would not occur within Riparian Habitat Conservation Areas (RHCAs) (default of 300 feet of fish bearing streams, within 150 feet of perennial streams and wet areas ≥ one acre, and 50 feet of intermittent streams and wet areas < one acre). In some cases black lines (the use of fire to reduce fuels creating a boundary for the later fire) or hand-constructed firelines outside the RHCA may be used to prevent fire spread into important riparian habitat. The need for black line or hand line would be determined on a site-by-site basis. Adjacent RHCAs would be evaluated for potential fire hazard. If the RHCA is determined to be a high hazard for more than a creeping ground fire, a hand line, black line or pre-treatment is necessary before the adjacent stand is burned. If fuel treatment has previously occurred within the RHCA(s) in question or if understory fuels within the RHCA(s) do not pose a current fire hazard a black line or hand line is not necessary and the fire is allowed to creep into the RHCA. *(fisheries)*
11. In RHCAs where fire backs downslope, a cooler, creeping and smoldering fire of lower intensity is expected. If the fire enters the RHCA, a minimum of 90% organic material (duff) would remain on the ground in the RHCA after prescribed burns in order to protect soil and minimize sediment delivery to streams. In these RHCAs, there would be no more than 10% bare ground exposed as a result of these prescribed fire projects. In most cases, fireline construction near riparian habitat is not planned. *(fisheries)*
12. Where fire is undesirable (some sensitive plant sites), suppression response would be determined prior to ignition on a site-by-site basis. Each burn project would have an individual “Prescribed Burning Plan” that would include a contingency plan in the event these criteria are exceeded. *(fisheries)*
13. Helicopters would only use previously disturbed areas. All refueling sites would be outside riparian reserves. In the event of a fuel spill during a burn project the Forest Hazardous Materials Coordinator would be contacted to coordinate clean up. *(fisheries)*
14. The use of pumps in streams is not anticipated. However, if needed, the use of pumps would not involve any streambed alteration. Pump chances would not pose any barrier to fish movement. Pumps and gas cans would be refueled outside RHCAs and absorbent booms and pads would be employed to capture

[38] Large area is typically greater than 100 square feet, or more than 50 feet long perpendicular to the slope.

any leaks or spills. Intake screens would be used on all pumps. Hazardous materials spill kits would be available for spill containment. *(fisheries)*

15. All refueling sites would be outside RHCAs. *(fisheries)*
16. No underburning of primary rangelands would occur after June 1st or before October 31st with the exception of hand pile burning, which would not negatively affect forage production. *(range mgmt.)*
17. Grazing permittees would be notified prior to implementing any prescribed fire within the project area by district fire staff. *(range mgmt.)*

Vegetation Management (silviculture)

18. Areas of root rot infection would be regenerated to resistant or tolerant species such as ponderosa pine, western larch, and western white pine, which are less susceptible to *Armillaria* root rot.
19. A wildlife biologist, recreation specialist, fisheries biologist, or hydrologist would assist the silviculturist in developing site-specific prescriptions, marking guidelines and monitoring if units are located within RHCAs, wildlife habitat, recreation, or visual emphasis areas.
20. Areas treated through regeneration harvest are to be reforested within 5 years after harvest.
21. Slash piles containing high amounts of lodgepole pine (LP) which are at risk to create or continue the spread of bark beetles should be burned as early as possible in fall. Delaying the slash pile burning for firewood cutting may increase the potential for pine engraver and mountain pine beetle buildup. Firewood cutting or biomass utilization from piles should be allowed as soon as possible after the unit is completed as long as it does not conflict with other resource needs. This would reduce the slash available for the beetles to invade. This would apply to the shelterwood portions of these units: 11, 12, 20, 23, 24, 32, 35, 37, 38, 40, 41, 42, 44, 48, 49, 52, 53, 61, 64, 69, 70, 71, 73, 78, 79, 81, 82, 83, 84, 85, 91, 93, 94, and 95.
22. No old growth stands or structural stage 6 or 7 (late or old) stands are proposed for treatment within the analysis area. If any stands are identified as old growth or structural stage 6 or 7 during future reconnaissance or unit layout, they would be excluded from the harvest activity.
23. Protect all select trees[39] within the project area. This includes retaining shelter trees[40] around the select tree to reduce the risk of blowdown. Select trees and the shelter trees will be identified by the District Silviculturist or District tree improvement coordinator during unit layout. Remove or modify both the ground and ladder fuels adjacent to the select tree to insure it's survival in the event of a wildfire or during site prep burn activities. Select trees are part of the Forest tree improvement program and are designated for cone/seed collection.
24. Protect the existing advanced regeneration from logging damage to the extent possible in units with overstory removal (HOR) prescriptions.
25. Unit 21 - Timing of harvest activities should be considered in intermediate silvicultural treatments when there is a high risk of bark slippage and damage to the residual trees. Bark slippage is the highest in spring and early summer when the cambium is active. Monitoring by sale administrators for excessive harvest damage during logging operations may allow for harvesting during the bark slippage period. Cambium damage in the residual trees can introduce disease organisms through the wound and further stress the trees increasing their risk to insect attacks.
26. To the extent possible, leave on site the tops and branches of the timber removed. Some material may need to be removed or masticated[41] to reduce fire risk. Except for units listed in design criteria #21, if material is to be removed, try to overwinter to allow leachable nutrients to go into the soil. *(soils)*

[39] Select trees are used for the collection of seed to develop genetically improved tree stock and for general reforestation needs.
[40] Shelter trees provide a microclimate (shade, temperature), as well as being a seed source in a regeneration unit. Shelter trees surrounding a select tree help reduce the risk of blowdown.
[41] Mastication is the process of grinding, shredding, or chopping surface and ladder fuel residue. It can be used in lieu of prescribed fire–either due to risk of escape, smoke concerns, or other management constraints.

27. Parts of units 1, 2, 23 and 97 (identified in the Hanlon soil report): Leave fine slash to retain nutrients on the site. *(soils)*

Noxious Weeds

28. Noxious weeds that occur within the project area and on Forest Service routes used to access the project area would be treated prior to any harvest or ground disturbing activities.
29. If possible, closing of roads following treatment and road decommissioning would not be implemented until weeds have been treated. Temporary roads may be closed as soon as work is completed regardless if area has been inspected for noxious weeds since the greatest threat of noxious weed infestation is vehicular access.
30. All roads that have been re-opened shall be closed as soon as required project activity, wood gathering, and harvest activity are completed to minimize the probability of noxious weed infestation.
31. Contract provisions would provide for cleaning of equipment prior to move in and use off of landings.
32. Noxious weed prevention would be conducted as prescribed in the *Colville National Forest Weed Prevention Guidelines* and *Preventing and Managing Invasive Plants* Record of Decision. These documents set forth the practices to be followed to minimize the introduction of noxious weeds and minimize conditions that favor the establishment and spread of noxious weeds.
33. In compliance with Management Objective 7 of the Colville National Forest Weed Prevention Guidelines, seeding of grasses or other cover plants is required where soil is disturbed by harvest, hazardous fuel reduction, or road activities.

Threatened, Endangered, and Sensitive Species (TES)

Target Species	Design Element	Mgmt. Guidance	Project Design Criteria
grizzly bear	hiding cover along open roads	USDI, 2001	Where the opportunity exists, provide a vegetative screen of shrubs, seedlings, saplings, and pole-sized trees between created openings and open roads. Allow no biomass removal from these cover patches.
	hiding cover in created openings	USDI, 2001	Where necessary, leave un-harvested cover blocks within created openings to ensure that no point in an opening is more than 600 feet from cover. Cover blocks (as identified by wildlife biologist during unit layout) would be at least 600 feet wide. Allow no biomass removal from cover blocks.
	hiding cover adjacent to foraging sites	USDI, 2001, USDA, 1995	Leave cover around natural openings so that no point in an opening is more than 600 feet from cover. Cover blocks would be at least 600 feet wide. Allow no timber harvest or mechanical fuels treatments within 50 feet of wetlands < 1 acre in size, and within 100 feet of wetlands > 1 acre. Allow no biomass removal from these areas of cover. Manage riparian habitat along streams according to guidelines listed in the fisheries report for this project.
	spring timing restriction	IGBC, 1986	Allow no motorized activities (heavy equipment/chainsaw operation) from April 1–July 1 in recovery habitat, to avoid disturbing bears during the period following den emergence. Handwork such as prescribed burning or tree planting would be allowed.
	temporary roads	consultation with FWS	Construct/reconstruct, use, and effectively close temporary roads from November 15 to April 1. At no time should these roads be drivable during the active bear season.
	system roads	USDI, 2001	Re-construct, use, and effectively close system roads brushed-out for this project (T36N, R44E, Sec. 8) from Nov. 15 to April 1. At no time should these roads be drivable during the active bear season. Do not open any closed roads for post-project fuel wood gathering.
	Forest Road (FR) 1935 re-location	USDI, 2001	Effectively close the existing segment of FR 1935 post-project, by ripping the road prism, scattering slash on the road, installing boulders on the road entrance, seeding and planting, or other means.

Target Species	Design Element	Mgmt. Guidance	Project Design Criteria
	rock pits	USDI, 2001	Allow no rock pit development from April 1–July 1. Attempt to confine blasting and crushing operations to after August 15. Stockpile topsoil and reclaim/revegetate pits following their useful life.
	motorized trails	USDI, 2001	Do not protect user-created, off-highway vehicle (OHV) trails within harvest units. The FS would effectively close these trails with piled logging slash, boulders, earthen berms, or other means post-project.
	core habitat/open, total road densities	USDI, 2001, consultation with FWS	Use project timing (Nov. 15 to April 1 operating period), and road closures to ensure the project does not result in a net loss of core habitat, or a net gain in total road densities in the BMU (see appendix D for the operating schedule by unit). Allow felling operations (chainsaw or mechanical harvester) in helicopter units from Oct. 15 to April 1 in the BMU.
bald eagle	nest protection	USDI, 2007	Allow no harvest activities in Unit 3 from December 1 to August 31, in order to avoid disturbance to an active eagle nest across the river.
common loon	nest protection		Complete proposed recreation projects (EA chapter 2) in the Yocum Lake basin outside the nesting season for loons (April 1 to July 1).
pileated woodpecker, pine marten, fisher, large raptors, etc.	old growth stands	Lowe, 1995	Exclude any stands meeting the North Idaho definition of old growth from harvest that are identified during future recon. or unit layout.
	large live trees	Lowe, 1995	Retain all trees 21 inches in diameter or larger, except those located within new ground-based or skyline equipment corridors, roads, landings, or rock pits.
	special structures		To the extent feasible, reserve broken-topped trees, trees with broom rusts, and hollow trees/logs from harvest.
furbearers	travel corridors	Lowe, 1995	Do not use shelterwood harvest within mapped travel corridors. Do not allow biomass removal from corridors. Ensure that project activities within corridors maintain; a) corridor width of 400 feet, b) overhead canopy closure within the top third of site potential, c) some understory in patches or scattered to assist in supporting stand density and cover.
goshawk	nest protection	Lowe, 1995	If a nearby goshawk nest stand is active, allow no project activities within Unit 53 from March 1 to August 15 in order to avoid disturbing the nest.
primary cavity excavators	snags	Mellen, et al, 2003 (DecAid)	To the extent feasible, retain snags that are 10+ inches dbh. Some 10+ inch snags would be felled within new road and equipment corridors, landings, and rock pits. Others may need to be felled for worker safety.
	down logs	Lowe, 1995, Mellen, et al, 2003	Do not cut or remove any log pieces that are 14+ inches in diameter at the small end. If not enough 14+ inch material exists to meet the requirements of the Eastside Screens for Timber Sales, retain enough smaller material to meet the requirements of the screens. An exception to the above is where there are large concentrations of 14+ inch logs. In such a case, some logs may be cut/moved in order to meet fuel management objectives, allow equipment operation, or for worker safety. Removal of 14+ inch logs from the site would be decided on a case by case basis after consultation between the district wildlife biologist, timber sale administrator, and fuels specialist.
big game	winter operations	Forest Plan page 4-99	Allow no project activities from December 1 to March 31 in those units located on elk winter range and *outside* grizzly recovery habitat (Units 1, 2, 3, 21). (Unit 3 has additional restriction through Aug. 31 for protection of eagle habitat.)
	forested cover	Forest Plan page 4-98	Where the opportunity exists, exclude pockets of shade tolerant regeneration/sapling/pole-sized or larger trees at least three acres in size within all harvest units.
landbirds	hardwoods		Mark no hardwood trees for removal, with the exception of those located within new equipment or road corridors, landings, or rock pits.
	dry forest stands		When thinning dry forest stand types (ponderosa pine/Douglas-fir), leave some overstory leave trees in clumps of at least 3-4 trees. An average of 2-3 clumps would be retained per harvested acre. This would provide pockets of interlocking tree canopies.

Sensitive Plants

34. Buffer all sensitive plant sites occurring in proposed harvest treatment units, fuel treatment units, and fuel breaks 100 to 150 feet or to the topographic break.
35. Flag and avoid all sensitive plant sites occurring within 50 feet of new road construction, road reconstruction, and temporary roads.

Roads

36. When available, use existing roads, unauthorized roads and landings instead of building new roads and landings. Applies to all units and proposed new road construction. *(soils)*
37. When available, use existing roads, unauthorized roads and landings for temporary roads, skidding and landing. Firelines, especially tractor firelines, and skid trails should be coordinated to minimize the overall impact. *(soils)*
38. Protect all authorized improvements (access roads, waterlines, drainfields, powerlines, and telephone lines). Trees are to be felled away from structures and water sources. *(special uses – a complete list of special uses is located in the project file.)*
39. The proposed use of the existing overgrown road within the RHCA of the West Branch of Le Clerc Creek to access units #25, 24 and #44 shall have the minimum amount of vegetation removal, through cutting, that is needed for access and harvest. There shall be no soil disturbance such as grading for the preparation of this road. This road would only be used for winter logging. Use of this road shall be prohibited during warming periods if rutting begins to occur on the road surface. After sale activity is finished in the units, limit future access and damage to riparian and instream habitat from OHV use by placing rock material and/or slash at each end of this road segment. *(fisheries)*
40. Avoid sediment delivery to streams from the road surface. On new roads and reconstructed roads outsloping of the roadway surface is preferred, except in cases where outsloping would increase sediment delivery to streams or where outsloping is infeasible or unsafe. Route road drainage away from potentially unstable stream channels, fills, and hillslopes. *(fisheries)*
41. Avoiding side casting of soils or snow during plowing or reconstruction on road segments within or abutting Riparian Habitat Conservation Areas. *(fisheries)*
42. The portions of the Middle Branch Le Clerc Road (FS RD 1935000) proposed for decommissioning should be ripped, seeded, and planted with native forbs and/or shrubs if available. In addition, the existing roadbed shall be contoured on either ends of each of the two road segments. Logging slash and boulders shall also be placed at each of the locations. This contouring shall occur within the site distance from the start of decommissioning to obliterate all signs of the former road to potential OHV and livestock use.

    All culverts, within these road sections, would be removed and channels restored. Proper sediment catchment materials such as, but not limited to, straw bales and silt fence shall be constructed and maintained during the duration of the activity.

    The Colville National Forest Guide to Seeding and Planting Vegetation would be used for all site restoration activities on disturbed soils. *(fisheries)*
43. All other road decommissioning should be drained, ripped, and seeded if they are currently accessible with machinery. In addition, boulder and slash placement should be used, where applicable, at the approach of each decommissioned segment from an existing system road in order to reduce or eliminate future OHV use. *(fisheries)*

Fisheries

44. Wetlands, springs, seeps, and streams not previously identified during the NEPA inventory and analysis would be delineated during unit layout using Inland Native Fish Strategy Environmental Assessment (INFISH) riparian guidelines.

Water and Soil

Best Management Practices

Best Management Practices (BMPs) are the primary mechanism to enable the achievement of water quality standards.

The following BMPs have been selected and designed to meet water quality standards for the Hanlon Environmental Assessment. The full text of these project-specific BMPs is located in appendix E of the EA. They are summarized below.

PRACTICE 11.01 - Determination of Cumulative Watershed Effects
PRACTICE 11.02 - Soil and Water Resource Monitoring and Evaluation
PRACTICE 11.03 - Watershed Improvement Planning and Implementation
PRACTICE 11.04 - Floodplain Analysis and Evaluation
PRACTICE 11.05 - Wetlands Analysis and Evaluation
PRACTICE 13.02 - Slope Limitations for Tractor Operation
PRACTICE 13.03 - Tractor Operation Excluded from Wetlands, Bogs, & Wet Meadows
PRACTICE 13.05 - Soil Protection During and After Slash Windrowing
PRACTICE 13.06 - Soil Moisture Limitations for Tractor Operation
PRACTICE 13.04 - Revegetation of Surface Disturbed Areas
PRACTICE 14.13 - Special Erosion Prevention Measures on Areas Disturbed by Harvest Activities
PRACTICE 14.14 - Revegetation of Areas Disturbed by Harvest Activities
PRACTICE 14.03 - Use of Sale Are Maps for designing Soil and Water Protection Needs.
PRACTICE 14.02 - Timber Harvest Unit Design
PRACTICE 14.08 - Tractor Skidding Design
PRACTICE 14.10 - Log Landing Location and Design
PRACTICE 14.05 - Protection of Unstable Areas
PRACTICE 15.05 - Slope Stabilization and Prevention of Mass Failures
PRACTICE 14.09 - Suspended Log Yarding in Timber Harvesting
PRACTICE 14.11 - Log Landing Erosion Prevention and Control
PRACTICE 14.12 - Erosion Prevention & Control During Timber Sale Operations
PRACTICE 14.15 - Erosion Control on Skid Trails
PRACTICE 14.06 - Riparian Area Designation
PRACTICE 15.12 - Control of Construction in Riparian Areas
PRACTICE 14.16 - Meadow Protection During Timber Harvesting
PRACTICE 14.17 - Streambank Channel Protection (Implementation and Enforcement)
PRACTICE 15.19 - Streambank Protection
PRACTICE 15.02 - General Guidelines for the Location and Design of Roads and Trails
PRACTICE 15.08 - Pioneer Road Construction
PRACTICE 15.09 - Timely Erosion Control Measures on Incomplete Road and Stream Crossing Projects
PRACTICE 15.03 - Road and Trail Erosion Control Plan
PRACTICE 15.06 - Mitigation of Surface Erosion and Stabilization of Slopes
PRACTICE 15.07 - Control of Permanent Road Drainage
PRACTICE 15.10 - Control of Road Construction Excavation and Sidecast Material
PRACTICE 15.18 - Disposal of Right-of-Way and Roadside Debris
PRACTICE 15.13 - Controlling In-Channel Excavation
PRACTICE 15.14 - Diversion of Flows around Construction Sites

PRACTICE 15.15 - Stream Crossings on Temporary Roads
PRACTICE 15.16 - Bridge and Culvert Installation (Disposition of Surplus Material and Protection of Fisheries)
PRACTICE 15.17 - Regulation of Borrow Pits, Gravel Sources and Quarries
PRACTICE 15.21 - Maintenance of Roads
PRACTICE 15.25 - Obliteration of Existing and Temporary Roads
PRACTICE 18.02 - Formulation of Fire Prescriptions
PRACTICE 18.03 - Protection of Soil and Water from Prescribed Burning
PRACTICE 18.05 - Stabilization of Fire Suppression Related Watershed Damage
PRACTICE 11.07 - Oil and Hazardous Substance Spill Contingency Planning
PRACTICE 11.11 - Petroleum Storage and Delivery Facilities & Management
PRACTICE 15.11 - Servicing and Refueling of Equipment
PRACTICE 15.20 - Water Source Development Consistent With Water Quality Protection

Soils

45. For tractor units, the skid trails should be at least 130 feet apart except when converging (i.e., at landings or to avoid streams or rock outcrops).
46. For cut-to-length (CTL) units, forwarder trails should be about 40 feet apart and, at least in part, effectively buffered by slash, snow, and/or frozen ground conditions.
47. Slash would be placed on the ground ahead of the cut-to-length processor to minimize compaction; and the same trail would be used by the forwarder. Generally, the slash needs to be about 10 inches deep prior to compaction by the equipment to provide sufficient compaction buffering.
48. Units 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 56, 57, 58, 59, 60, 67, 68, 69, 70, 71, 72, 73, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, and 97: Harvest activities may be timed to occur during snow periods and/or frozen ground to minimize compaction. Depending on the firmness of the snow, the amount and quality of slash, and the frozen ground conditions, the snowpack may range from as little as 2-4 inches of compacted snow over frozen ground, or may require as much as 8 to 10 inches of compacted snow when the ground is not frozen and insufficient slash is available. Snow over frozen soil is the most effective. Frozen ground means ground remains hard and frozen after the equipment has passed, and does not break-up.
49. CTL equipment shall not be operated when ground conditions are such that excessive damage would result. The kinds and intensity of control work done by Purchaser shall be adjusted to ground and weather conditions. For post-sale activities, heavy equipment would be similarly limited to acceptable soil conditions.
50. All units except 8 and 12: Mechanized equipment – including felling equipment, piling equipment, masticators – would generally not be allowed to operate off of designated skid trails unless specifically approved by the timber sale administrator (TSA) or contracting officer's representative (COR). Under dry soil or frozen conditions, and where adequate duff and/or slash is present, the Forest Service <u>may approve</u> a single pass by moderate- to low-ground pressure equipment. If the purchaser or contractor requests to use ground-based equipment in skyline or helicopter units, the request would be reviewed and considered on a case-by-case basis. That would allow the Forest Service to consider all the pertinent conditions at the time of the request – soil moisture, the exact equipment proposed, volume to be removed, slash available, and other mitigating circumstances such as snow or frozen conditions.
51. Units 8 and 12: Mechanized equipment – including felling equipment, piling equipment, masticators – would generally not be allowed to operate off of designated skid trails unless specifically approved by the TSA or COR. Under dry soil conditions, the Forest Service may approve limited operations by felling, piling, or masticating equipment. Requests to use ground-based equipment in skyline or helicopter units would be reviewed and considered on a case-by-case basis. That would allow the Forest Service to

consider all the pertinent conditions at the time of the request – soil moisture content, rock content, the exact equipment proposed, volume to be removed, slash available, and other mitigating circumstances such as snow or frozen conditions.

52. Prevent additional compaction in units that have levels of existing detrimental soil conditions over about 10%. Applies to:
    a. Unit 3 - limit equipment to the existing roads, and limit fuel treatment equipment to dry conditions[42].
    b. Unit 28 - Logging would occur during the winter. The existing roads would be used to access the unit; however, avoid using the OHV climbs as skid trails. Avoid skid trails that parallel the hill climbs. Grapple pile using low ground pressure equipment during times of dry or frozen ground. Keep the grapple equipment off the hill climb slopes. Do not create equipment trails that are attractive to OHV traffic.
    c. Unit 29 - operate all ground disturbing equipment when soil is frozen or over snow.
    d. Unit 32 - All ground-disturbing activity would occur over frozen ground/snow conditions. This area has areas of compacted soil due to historical activities. Mastication would increase the organic matter in the soil..
    e. Unit 33 - Logging would occur during the winter, using existing roads. It is OK to use OHV trails as skid trails. Waterbar skid trails upon completion. Grapple pile/masticate using low ground pressure equipment during times of dry or frozen ground. Obliterate eroding OHV trails during operations. Operate all ground disturbing equipment when soil is frozen or over snow.
53. Activities that result in bare and compact soil (tractor, skidder, machine piling, fireline, etc.) would be limited according to the erosion rating of the unit. Short pitches may be steeper. Avoid long steep skid trails. Avoid skid trails located in swales and ravines. (BMP PT-9, PVM-1)
54. Activities that result in covered and compacted soil (CTL, masticator, etc.) would be limited according to the erosion rating of the unit. Short pitches may be steeper. Avoid long steep skid trails. Avoid skid trails located in ravines. (BMP PT-9, PVM-1)
55. Seed and scarify landings and seed skid trails and other areas of bare soil. It is especially important to treat strips of bare ground that are perpendicular to the slope. Portions of CTL trails, where the slash mat has failed, and the ground is bared, gouged or rutted would also require seeding. (BMP PT-14)
56. Design the tractor skid trails and tractor firelines to facilitate drainage (not long straight trails) and install cross-drain structures (e.g., waterbars) to dewater. CTL trails, where the slash mat has failed, may require some structural drainage (waterbars) to dewater the trail. This work may be done in conjunction with seeding for revegetation. (BMP PT-16) The following table should be used as a guide when installing waterbars or other dewatering features:

Slope of skid trail or fireline	Distance between waterbars or other dewatering devises (ft)	
	High Erosion Potential	Low-Moderate Erosion Potential
<15%	150	300
15-35%	100	200
35-50%	50	100
>50%	25	50

57. Erosion Prevention and Control Measures During Timber Sale Operations. Equipment shall not be operated when ground conditions are such that excessive damage would result. The kinds and intensity of control work done by Purchaser shall be adjusted to ground and weather conditions and the need for controlling runoff. Erosion control work shall be kept current immediately proceeding expected seasonal periods of precipitation or runoff. (BMP PT-13)

[42] Logging in this unit is limited to August 31-December 1.

58. To protect soil from excessive disturbance, and to minimize erosion from skyline corridors, suspend logs during yarding (one end suspension). Includes skyline and helicopter yarding systems. (BMP PT-12)
59. Seed areas disturbed by skyline yarding. (BMP PT-14)

Scenery Management

General Application

60. Cable logging system: keep cable corridors as narrow as possible to reduce contrasting line effects; oriented away from viewing locations (Washington State Hwy. 20, and Le Clerc Creek Road [County Route 9325]) when possible.
61. Created opening: use irregular shaped openings (no straight lines or corners—line, form) with grouped leave tree islands to reduce visual contrasts; and limiting the size of created openings (soil color contrasts). Minimize skid trails or roads that create linear openings perpendicular to the normal line of sight.
62. Mimicking natural density changes around created openings, and retaining the natural variances within the stand rather than “evening out” the spacing of trees, would help to reduce the obvious character changes occurring in the overall landscape.
63. Canopy texture: prescriptions should call for the retention of the highest number of trees per acre appropriate for a thinning, thus maintaining enough forest canopy to meet the Visual Quality Objectives (VQO) (leave trees may be grouped or clumped). Applies to all units with a prescription of thinning or thinning/shelterwood.
64. Where pockets of hardwoods greater than ¼ acre in size exist, maintain the hardwoods for diversity of pattern and color.
65. Road Construction/Reconstruction: preserve the existing vegetation below constructed system and temporary roads as much as possible for screening.

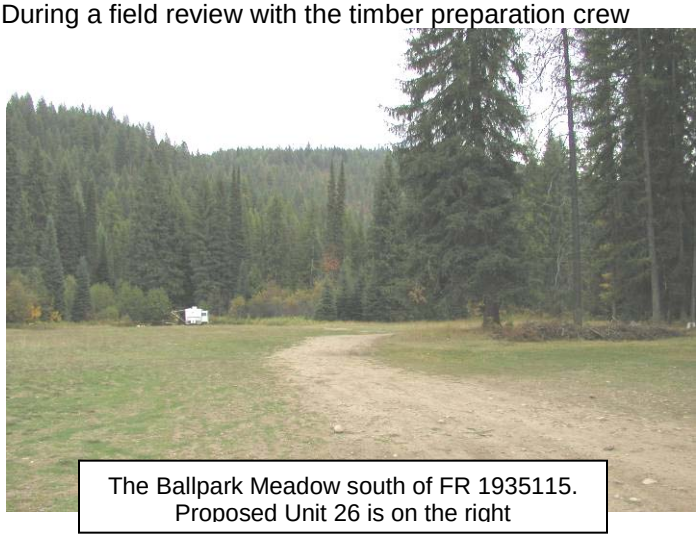
Specific Application

Visually Sensitive Route/Area	Units of Concern	Design Concept to Address Concern	Created Opening Units/Roads of Concern	Design Concept to Address Concern
State Highway 20 and County Route 9325	Units 1, 2, 21	Minimize skyline corridors at 90 degrees to line of sight.	Reconstruction of Road 1900096	Develop with topographic and/or vegetative screening

Recreation

66. No timber harvest, timber haul, heavy equipment relocation, or prescribed burning would occur over the summer holiday periods – Memorial Day weekend, Labor Day weekend, and the Fourth of July holiday (considered to be a minimum of July 3-5).
67. Warning signs would be placed in conjunction with harvest and burn activities informing forest visitors (e.g., “timber harvest ahead” or “equipment working ahead”, “prescribed fire ahead”). Manual of Uniform Traffic Control Devices specifications would be utilized.
68. Road closures to facilitate harvest or burning operations should be kept to a minimum without compromising visitor safety. Signs would be posted as required in the Manual of Uniform Traffic Control Devices. If Forest Roads 1935 or 1935115 are closed, a sign informing the public would be posted near the intersection of CR 3521 and 3503, including the general location of the closure.
69. Timber harvest and fuel treatment activities would be allowed to utilize all user-created OHV trails, and may be left in a condition so as to prevent continued OHV use.

70. Ballpark meadow.
    a. Timber harvest operations may utilize the Ballpark meadow north of FR 1935115 (racetrack area) as a landing. Upon completion, the landing would be cleared of woody debris, ripped and seeded.
    b. Units 26, 27, and 28 boundary marking. During a field review with the timber preparation crew foreperson June 29, 2009 it was agreed to modify the boundary marking and tagging adjacent to the meadow[43].
    c. Unit 26 and dispersed camping. Proposed unit 26 extends across FR 1935120 to the edge of the meadow. FR 1935120 is the old campground loop road. Thick conifer reproduction has grown, making the road difficult to use and the area generally unusable for camping. The objective is to improve the old loop road for camping, and maintain a visual quality objective of retention in the foreground. In order to achieve that goal the following actions are proposed:



The Ballpark Meadow south of FR 1935115. Proposed Unit 26 is on the right

        i. Utilize a cut-tree mark in the foreground around the meadow, or remove/obliterate/obscure the tree marking paint after the sale is completed. This may mean splitting unit 26 into a cut-tree unit next to the meadow, and a leave-tree unit farther away. Exactly how this would be accomplished would be decided during the sale preparation phase.
        ii. Timber harvest operations and fuel treatment operations would utilize FR 1935120, thereby reopening the road to vehicles.
        iii. Some of the noncommercial conifer reproduction that would normally be slashed as part of the fuel treatment would be maintained to create a mosaic of openings and privacy.
        iv. Fuel treatment operations would be modified in the loop area and immediate foreground to result in useable campsites. This may mean lopping and scattering some of the fuel, hand piling some areas, and/or modifying the mastication specifications.
71. Leave heavy vegetative stocking and minimize post-harvest ‘slashing’ along roads in the Diamond City area (units 25, 36, 27, 28, 29, 30, 31, 32 and 33) to discourage off-trail travel by motorcycles.
72. Project-created hazards adjacent to dispersed sites (e.g., partially burned snags) would be felled as soon as practical (units 3, 11, 12, 23, 26, 27, 28, 32, 33, 75).
73. After harvest and fuel treatment, perform basic cleanup to any dispersed sites located within harvest units. Basic cleanup typically means restoring the access route to general pre-project conditions, and restore the integrity of one user-created stone fire ring. It does not mean clearing all slash from the campsite.
    a. Unit 3 – retain the walk-in trail to the beach.
    b. Units 11 and 23 – restore the integrity of the site but do not restore the vehicle access.
    c. Units 12 and 75 – the campsites are located on old landings. Reuse the landing and clear for vehicle access and the fire ring.

[43] In Unit 27 the striped portion of the boundary would end in the timber, north of the meadow on abandoned road #C3503-6.80RA. From there the trees would be tagged and a small stripe painted over the tag. Some of the paint would be on the tree but not a substantial amount. This tag stripe faces the unit, not the meadow. The boundary trees would also have orange stump marks. This “tag only” area continues to Rd 115. Unit 26 boundary along the meadow would be designated with the same method. The same standard of minimal boundary paint would continue along the tree line bordering the meadow for approx. 75 feet inside the timber south of the meadow. At this location, the customary highly visible boundary painting would resume.

d. Unit 32 (Diamond City) – 3 campsites are located within this unit. Restore vehicle access and fire rings.
e. Unit 33 – the campsite is located along the creek and is probably outside the unit. Maintain the parking area.

74. Keep the south end of non-system road C3503-6.16R for about 150 feet to access an existing dispersed campsite.

Range Management

75. Existing, known range improvement projects would be protected from damage which may result from harvest and burning activities. Known range improvement projects are located in the following units; 32, 33, 37, 42, 58, 91, 94, and 96. Should these range improvement projects become damaged as a result of the proposed action, contract provisions would provide for their repair.

76. All rangeland improvement projects, such as developed springs, water troughs, and fences not previously identified by the NEPA inventory and analysis would be delineated and protected during harvest and burning activities. Should range improvement projects become damaged as a result of the proposed action, contract provisions would provide for their repair.

77. If natural barriers to livestock are breached by the proposed action, fencing would need to be constructed to limit livestock dispersal. There is a potential need for approximately 2.5 miles of fencing in the Le Clerc Allotment near units 32, 37, 41, 42, 64, 91, and 94 if natural barriers are removed. The Rangeland Management Specialist would be responsible for conducting follow up visits to areas listed above to determine the need for barriers. These visits would be conducted for the first and second years following treatment. Where barriers are installed, the rangeland management specialist is responsible for checking the improvement within one year after its completion to ensure the effectiveness of the barrier as outlined in the Colville National Forest's Environmental Management System.

78. The Middle Branch Le Clerc Creek Road relocation project would require that the existing cattleguard on FS road 1935, T. 36 N., R. 44 E., NE ¼ of section 29 be pulled and relocated to the newly constructed road on the boundary between NFS and private lands.

Heritage Resources

79. Any sites not evaluated, or evaluated as eligible for the National Register of Historic Places, need to be avoided during this project. No ground disturbing equipment would be allowed within the site boundary. All trees near a site boundary need to be felled away from the property.

80. The district archaeologist would identify sites on the ground and would coordinate with appropriate project personnel to provide site boundary location information to roads, presale, and fuels treatment crews. Unless otherwise notified, all site boundaries would need to have a 10-meter buffer added by the presale crew.

81. If a site is evaluated as not eligible for the National Register of Historic Places, then there is no further need to actively manage the site location. This determination would be provided by the district archaeologist.

Special Uses

82. Unit 1: The existing road that is proposed for medium reconstruction has an easement on it granted to Arden Tree Farms. Reconstruction, use and maintenance of the road should be coordinated with Arden Tree Farms to ensure that impacts to their authorized access are minimized.

83. Unit 2: The Smiley's road and waterline are located within the area proposed for shelterwood/precommercial thinning harvest. The first section of the road is proposed for medium reconstruction. This road is the only access to the Smiley's year round residence. Reconstruction, use and maintenance of the road for the timber harvest must be conducted in such a way as to keep it safe and open for use by the permit holders.

Skid roads and/or trails must be approved by the Forest Service and are to be located in such a way as to avoid crossing the buried waterline. A no-cut buffer (in compliance with standards established for water quality protection) must be marked around the spring that serves as the water intake for the Smiley's water system.

84. Unit 3: The Bledsoe drainfield is located within this area proposed for shelterwood/precommercial thinning harvest, on its southern border. The boundary of Unit #3 should be established to exclude the drainfield so that it can be protected through avoidance.

85. Unit 92 and Light Road Reconstruction of Forest Road 1934204: The southern boundary of this unit borders private property owned by Olson. Marking of the boundary must be clear so that the timber purchaser does not harvest trees that are not property of the United States.

    Forest Road 1934204 provides access to Olson's property and they hold a special use authorization for its use. Timing of the construction should be coordinated with the permit holder so that the impact to the access to their property is minimized.

86. Light Reconstruction of Forest Road 1934000: Washington State Department of Natural Resources holds an easement for this road. Timing of the reconstruction should be coordinated with the easement holder so that the impact to their access to their lands is minimized.

87. Light Reconstruction of Forest Road 1900640: This action would affect a road for which Stimson Lumber Company holds an easement (formerly granted to Plum Creek Timber Company). Timing of the reconstruction should be coordinated with the easement holder so that the impact to their access to their property is minimized.

88. New System Road Construction for Forest Road 1935000 (n1935a): This action would alter access to Forest Road 1935116 for which Owbridge holds an easement. Timing of the construction should be coordinated with the easement holder so that the impact to their access to their property is minimized. In addition, a new survey plat would need to be prepared and the easement amended as necessary to reflect the new road location.

89. New System Road Construction for Forest Road 1935000 (n1935b): This action would alter access for which Stimson Lumber Company holds an easement (formerly granted to Plum Creek Timber Company). Timing of the construction should be coordinated with the easement holder so that the impact to their access to their property is minimized. In addition, a new survey plat would need to be prepared and the easement amended as necessary to reflect the new road location.

90. If mining claims are staked within areas proposed for timber removal, prescribed burning or other vegetation management, all features that monument corners of those claims should be protected through avoidance. If avoidance is not possible, the owner of the affected claim should be notified so that he/she can re-monument the corner.

Mitigation Measures

TES and MIS - The following measures would be necessary under certain conditions to mitigate potential impacts of alternative B to TES and other wildlife species.

a. **TES Species Protection** - If a TES species or activity site (den, nest, rendezvous site, etc.) is found in the project area while the project is active, consult a wildlife biologist as to measures required to protect the species/site.

b. **Post-Project Road Management** (FS personnel) **-** If an existing gate is being driven around by off-highway vehicles, take steps to more effectively close the road. This could include installing boulders or other barriers on the side of the gate. The gate might be moved to a more effective location.

   Monitor the effectiveness of closures on temporary roads, brushed out roads, and the obliterated portion of FR 1935 each year for five years following the sale. If a given closure is not 100 percent effective at prohibiting unauthorized, motorized travel on the road, the FS would implement actions necessary to improve the closure.

c. **Snag Creation** (FS personnel) – Following timber harvest and fuels treatments, survey regeneration harvest units for standing snags. In units having less than the prescribed number of snags/acre, create additional snags by top girdling, inoculation with forest pathogens, or other means. Do not create snags within commercial thinning and other partial harvest units since only a fraction of the green trees would be logged and any existing snags would be much easier to retain.

Scenery - To meet the visual objective of Retention along County Route 9325, the following projects need to be accomplished within 1 year of project completion:

d. Units 1 and 2 - within the Immediate Foreground zone (0-300 feet):
   - Obvious stumps would be recut to be flat and flush (8 inches or less) with ground level in order to reduce the evidence of logging activity.
   - Logging slash would be lopped and scattered or masticated to within 12 inches of ground within 100 feet of the road shoulder. Larger pieces of logging slash would be placed parallel to the road so the cut face of the log is not facing the road.
   - Flagging ribbon and boundary or other tags would be removed where visible from the road.

Sensitive Plants –

e. If a sensitive species is found in the analysis area while project activities are occurring, a botanist would be consulted as to measures required to protect the species and its essential habitat.

Totals for Alternative B:

Commercial Treatments:

Prescription	Acres
Shelterwood	107
Shelterwood/commercial thin	849
Selection harvest	1177
Commercial thinning	1519
Commercial thin/overstory removal	787
Commercial thin/shelterwood	863
Precommercial thin/sub-standard material removal	54
Total	4647

Post Sale Treatments:

Commercial Units	Acres	Noncommercial Units	Acres
Plant	912	Broadcast/jackpot burn	1437
Broadcast/jackpot burn	2323	Precommercial thin	624
Mechanical treatments[44]	2324		

[44] Mastication and/or machine piling.

Table 1 Comparison of Purpose and Need Objectives by Alternative

Purpose and Need Objective #	Measurement	A No Action	B
1	Acres Treated within Analysis Area (fuel reduction)	0	6084
2	Acres Treated (forest health – commercial & noncommercial)	0	5271
3	Blockages to fish passage removed	0	6
	Miles of road located within RHCAs Decommissioned or obliterated	0	3.2
4	% Thermal Cover[45]	63	63
	% Hiding Cover	74	61
	% Forage[46]	24	37
5	Number of Contracts Proposed (support community structure)	0	2

Table 2 Acres of Proposed Vegetation Treatments by Alternative

Proposed Treatments	Alt. A	Alt. B
Estimated Acres of Harvest		
Shelterwood	0	107
Shelterwood/commercial thin	0	849
Selection harvest	0	1177
Commercial thinning	0	1519
Commercial thin/overstory removal	0	78
Commercial thin/shelterwood	0	863
Precommercial thin/substandard material removal	0	54
Total Acres of Harvest	**0**	**4647**
Estimated Volume (Ccf)	0	60,000
Estimated Acres of Fuel Treatments		
Jackpot/broadcast burning	0	3760
Mechanical fuels treatments	0	2324
Precommercial thinning	0	624
Total Acres of Fuels Treatments within Project Area	**0**	**6708**

MONITORING PLAN

The monitoring activities described below would be undertaken in addition to the monitoring needs identified in the Forest Plan (Forest Plan, chapter 5).

1. General Monitoring Responsibilities

   The district ranger has the primary responsibility for implementation of the monitoring plan. The district silviculturist would be responsible for ensuring that harvest prescriptions are designed in compliance with the project design requirements and Forest Plan direction. The district wildlife biologist would be responsible for ensuring that the necessary monitoring for winter range, snag retention levels, and old-

[45] Treatments would occur in areas currently having marginal or nonexistent cover and would improve cover in the long-term.
[46] See discussion of big-game in chapter 3 (pg. 64).

growth dependent wildlife species is accomplished. The east zone fisheries biologist would ensure that fish habitat projects are accomplished. The east zone fisheries biologist and district silviculturist share the responsibility to ensure that the riparian resource and water quality protection measures are correctly prescribed and placed in the timber sale contract. The district presale forester or forestry technician is responsible for insuring compliance with listed requirements during field and office sale preparation activities. The timber sale officer is then responsible for implementation of these measures.

2. Specific Monitoring Responsibilities

   Monitoring of project implementation would be the responsibility of forest and district staff as follows:

Activity	Responsible Position
Preparation of commercial timber sale	PF, S, WB, T, FB, HR, RS, NW
Administration of timber sale contract	SA, ER, S, WB, NW
Post-sale activities	S, WB, F, NW, RS, Rec
Fire/fuels treatments	F, S, WB, HR, RS, Rec, NW, FB

WB	Wildlife Biologist	RS	Range Specialist
PF	Presale Forester or Forestry Technician	S	Silviculturist
		SA	Sale Administrator
T	Transportation Planner	ER	Engineering Representative
F	Fuels Specialist	Rec	Recreation Specialist
HR	Heritage Resource Technician	NW	Noxious Weed Coordinator
H	Hydrologist	FB	Fish Biologist

The position listed first generally has primary responsibility.

POSSIBLE SALE AREA IMPROVEMENT PROJECTS

The following listed activities were identified by the various resource specialists as Sale Area Improvements that could be funded under the Knutsen-Vandenberg Act (KV)[47], within a stewardship contract, or through a service contract. Listing such activities in this Environmental Assessment is required in order for funding generated by the sale of timber under this EA to be used for the listed Sale Area Improvement Activities.

Activities that are included in the selected action (including mitigation measures) for this environmental assessment (Hanlon Timber and Fuels Management Projects) may be implemented with timber sale-generated or other funds without further NEPA analysis; however, activities not listed within this EA must be the subject of separate NEPA analysis before they may proceed. It should be noted that “separate NEPA analysis” may include NEPA analysis that has already been completed.

No KV projects would take place under alternative A (no action).

KV collections are proposed under alternative B to cover:

Vegetation Management

A. Costs involved in regenerating harvest areas. Activities include site preparation for natural and artificial regeneration, planting, and the stocking and establishment surveys.

B. Maintenance of select trees including cone surveys, cone collections, and seed extraction to maintain future seed sources that are locally adapted to the site.

C. Western white pine pruning to reduce the risk of infection by white pine blister rust.

D. Precommercial thinning of timber stands to improve growth, increase resistance to insects and disease, and encourage the species composition needed to meet the desired future condition for the area.

E. Costs involved in planting in underburn areas that previously were open park like stands of PP, WL and DF and do not have an adequate seed source to regenerate them as a result of past harvests and the fires in the 1930s.

[47] Knutson-Vandenberg Act of 1930.

Wildlife

F. Aspen Maintenance/Protection **–** Small (noncommercial) conifers could be cut down within selected aspen stands to forestall the aspen trees from being shaded out over time. Selected aspen stands on the edges of meadows or near roads could be fenced to limit livestock browsing of young sprouts.

G. Forage Seeding - Shelterwood harvest units that are under-burned could be seeded to supplement green forage for wintering big game.

H. Meadow Maintenance – Small (noncommercial) conifers could be cut down where they are encroaching into old homestead meadows, in order to keep these sites in an open, productive condition for big game. Meadows could be burned to remove encroaching conifers and grass thatch, and to rejuvenate grasses.

I. Food Storage Containers – Up to ten animal resistant food storage containers could be installed at four separate meadows that are heavily used dispersed campsites. These containers would provide campers with a secure place to store food and refuse. They would also raise public awareness about wildlife attractant issues.

Fisheries

J. Within the RHCA between unit #44 and the West Branch of Le Clerc Creek where trees are lacking, plant conifers in order to increase sources of future large instream wood and overhead shading. Present riparian conditions indicate a scarcity of trees in the overstory.

K. West Branch (Racetrack) Meadows Riparian Protection - the project area includes approximately 0.5 miles of fence construction along 0.25 miles of the West Branch of Le Clerc Creek. This project would build onto the existing fencing in the general area. The location of this project is in T. 36 N., R. 44 E., NE 1/4 of Section 19. A combination wood and barbed wire fence would be constructed on either side along the section of the stream presently impacted by overuse by recreational users. The objective is to allow the riparian vegetation and streambanks to recover its capability.

L. Le Clerc Instream Habitat Improvement - the project area includes much of the fish-bearing stream mileage within the analysis area. The project would place instream wood and/or rock at various locations. The objective would be to improve the complexity of existing fish habitat, reconnect stream channels to their floodplains and stabilize stream channels. No new roads or road reconstruction would occur. Minor amounts of riparian vegetation may be removed during installation of this material. Any disturbed site would be revegetated with native riparian vegetation where possible. Again, any activity within the stream would comply with Forest BMPs and the requirements of the HPA from the Washington Department of Fish and Wildlife and would occur during low flow periods from July 1 through August 31.

Heritage

M. Within the site of Diamond City are 2 large, 16 foot-deep Cisterns that pose hazards to the dispersed campers in the area. Both of the cisterns should be closed. Facilities engineers should be consulted as to the best method to achieve this.

N. Two large interpretive signs should be installed at the Diamond City dispersed camping location. The signs would be installed by placing post-holes for the sign legs. Both signs would have large pictures and text information about the history of Diamond City. One would show the city itself, and the other would talk about the aerial tramway.

O. At least 2 smaller "Your Heritage, please do not damage" signs should be placed around the features near the dispersed camping area. Specifically, we need to discourage people from using the cobblestone fireplace for campfires (this is the old supervisors house- the sign could also contain interpretive elements). The signs would be installed by placing post-holes for the sign legs.

P. A "Welcome to Diamond City- Please Respect this Historic Site" sign should be placed at the beginning of FS Road 1935-105, where it intersects with FS Road 1935-115. The sign would be installed by placing post-holes for the sign legs.

Q. One large interpretive sign should be placed at the "Ballpark Meadow", A.K.A. "West Branch Campground". This is historic location where the Diamond City Baseball Team took on other teams from

the Valley, including Ione, Metaline Falls, and Newport. There is an historic photo of the Diamond City baseball team in their pin-stripe baseball suits, which could be used for interpreting the location (photos of other teams are available too). The public could be directed to Diamond City from this sign. The sign would be installed by placing post-holes for the sign legs.

Range

R. Construction of approximately ¼ mile of fence to tie existing fences into the cattleguard, which would be placed in the new Middle Branch Le Clerc Creek road as part of the Middle Branch Le Clerc Creek Road relocation project, to create an effective barrier to cattle movement.