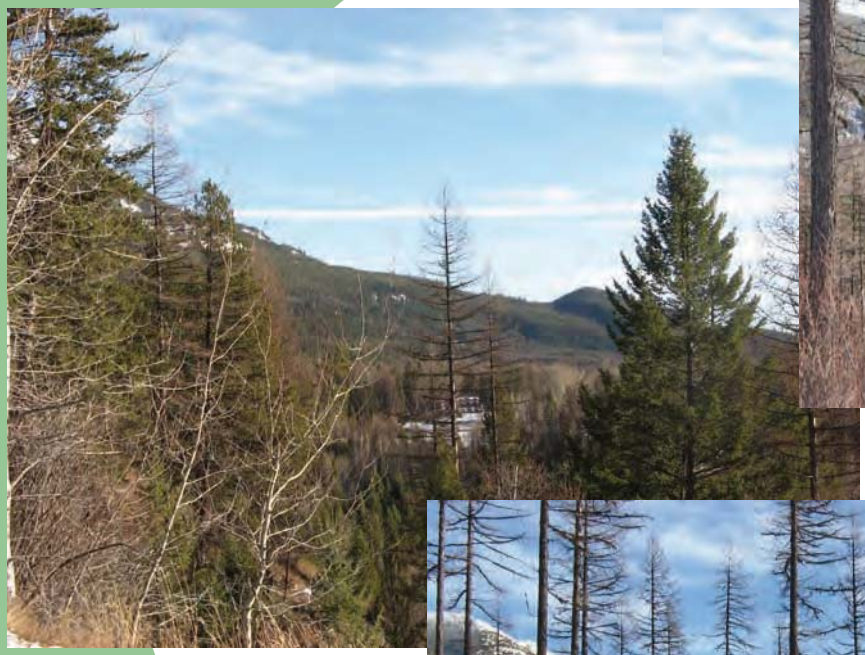
Fish Bull Face Timber Sale

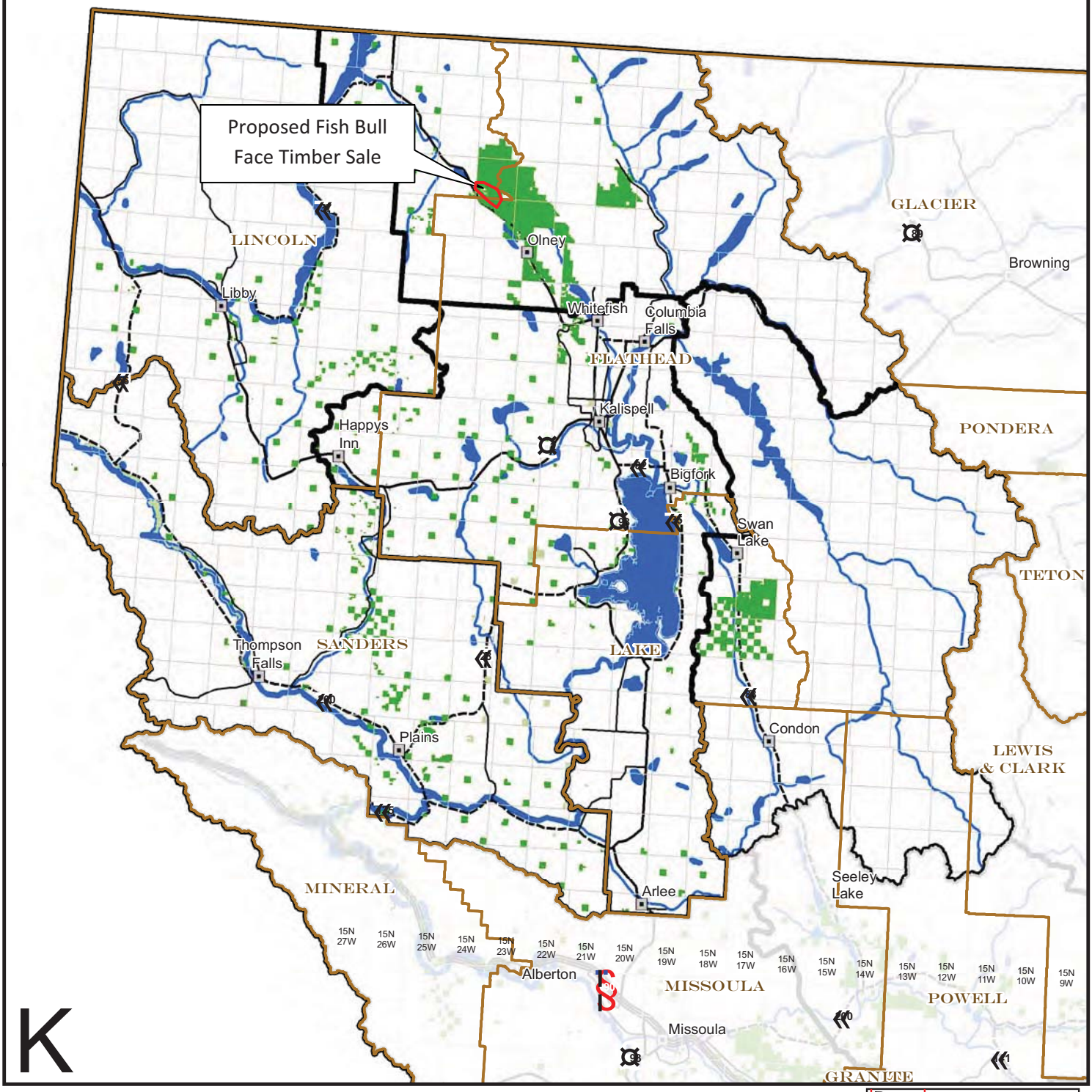
Final Checklist Environmental Assessment— April 2012



Department of Natural Resources and Conservation
Northwest Land Office— Stillwater Unit

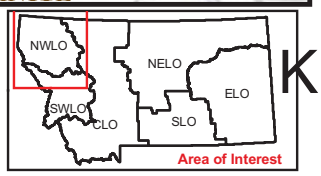
Fish Bull Face Timber Sale Vicinity Map

Sections 19, 20, 29, 30, 32, 33 & 34 of T34N R24W
and Sections 3 & 4 of T33N, R24W
Lincoln County and Flathead County



Interstate Highway
U.S. Route
State Highway
Secondary Roads
County
DNRC other
DNRC managed for timber
City
Township/Range
Management Unit

0 5 10 20 30 40 50 Miles



6 December 2010
Montana DNRC
Technical Services Section/dr

TABLE OF CONTENTS

Vicinity Map (*inside front cover*)

Section I – Type and Purpose of Action 1

Section II – Project Development 1
1. Public Involvement, Agencies, Groups, or Individuals Contacted 1
2. Other Governmental Agencies with Jurisdiction, List of Permits Needed 4
3. Alternative Development 4

Section III – Impacts on the Physical Environment 6
4. Geology and Soil Quality, Stability, and Moisture 6
5. Water Quality, Quantity, and Distribution 7
6. Air Quality 9
7. Vegetation Cover, Quantity and Quality 9
8. Terrestrial, Avian, and Aquatic Life and Habitats 11
9. Unique, Endangered, Fragile, or Limited Environmental Resources 13
10. Historical and Archaeological Sites 13
11. Aesthetics 14
12. Demands on Environmental Resources of Land, Water, Air, or Energy 14
13. Other Environmental Documents Pertinent to the Area 14

Section IV – Impacts on the Human Population 15
14. Human Health and Safety 15
15. Industrial, Commercial, and Agricultural Activities and Production 15
16. Quantity and Distribution of Employment 15
17. Local and State Tax Base and Tax Revenues 15
18. Demand for Government Services 15
19. Locally Adopted Environmental Plans and Goals 15
20. Access to and Quality of Recreational and Wilderness Activities 16
21. Density and Distribution of Population and Housing 17
22. Social Structures and Mores 17
23. Cultural Uniqueness and Diversity 17
24. Other Appropriate Social and Economic Circumstances 17

Section V – Finding 18

Attachment I – References
Attachment II – Project Map
Attachment III– Prescription Table
Attachment IV– Wildlife Analysis
Attachment V – Water Resources Analysis
Attachment VI– Stipulations and Specifications
Attachment VII– Glossary
Attachment VIII– Preparers

Acronyms (inside back cover)

CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name:	**Fish Bull Face Timber Sale**
Proposed Implementation Date	Summer 2012
Proponent:	Montana Department of Natural Resources (DNRC), Northwestern Land Office, Stillwater Unit
Location:	Sections 19, 20,29, 30, 32, 33 & 34 of Township 34 north, Range 24 west; and Sections 3 & 4 of Township 33 north, Range 24 west
County:	Lincoln

I. TYPE AND PURPOSE OF ACTION

Montana Department of Natural Resources and Conservation (DNRC), Stillwater Unit, proposes to harvest approximately 1.5 to 2 million board feet of timber from the Stillwater State Forest (*see Vicinity Map*). The proposed activities would regenerate new stands of healthy trees while improving the vigor and growth of trees remaining in the forest for the purpose of benefiting future trust actions. The proposed project would reduce the amount of forest fuels and density of trees to mitigate potential effects of wildland fire. Roads would be brought up to Montana's Best Management Practice (BMP) standards; this includes relocating the existing Fish Lake Road away from the lakeshore. Currently Fish Lake Road travels along the lakeshore in places and several portions of this road would be reclaimed into a foot trail. This project would produce an estimated $35,500 in revenue for the Common Schools Trust.

The lands in this project are held in trust by the State of Montana for the support of specific beneficiary institutions (Enabling Act of February 22, 1889; 1972 Montana Constitution, Article X, Section 11). The Board of Land Commissioners (Land Board) and DNRC are legally required to administer these trust lands to produce the largest measure of reasonable and legitimate long-term return for the trust beneficiaries (Montana Code Annotated 77-1-202).

This project was developed in compliance with the State Forest Land Management Plan (SFLMP), the Administrative Rules for Forest Management (Forest Management Rules; ARM 36.11.401 through 471), and conservation commitments contained in the Selected Alternative in the Final EIS of the Montana DNRC Forested State Trust Lands Habitat Conservation Plan (HCP), as well as other applicable state and federal laws.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED:

Provide a brief chronology of the scoping and ongoing involvement for this project. List number of individuals contacted, number of responses received, and newspapers in which notices were placed and for how long. Briefly summarize issues received from the public.

In September 2011, DNRC solicited public participation on the Fish Bull Face Timber Sale Project. Scoping notices were advertised in the Daily InterLake (Kalispell), Tobacco Valley News (Eureka), and at the Olney and Trego post offices. The Initial Proposal with maps was sent to neighboring landowners, individuals, agencies, industry representatives, and other organizations that have expressed interest in DNRC's management activities. The mailing list of parties receiving the Initial Proposal, and the comments received, are located in the project file at the Stillwater Unit Headquarters. The public comment period for the Initial Proposal was open for 30 days. DNRC received three letters and two emails.

In October 2011, the Interdisciplinary (ID) Team began to compile issues based on the comments received and to gather information related to current conditions. From the public scoping the following comments and/or concerns were presented:

The proposal would help maintain forest health, forest diversity, as well as resource-based industries and economies.	Please see analyses related to vegetation (Section III.7), industry (Section IV.15), employment (Section IV.16), and economics (Section IV.24) for more details on how this project might affect forest health, forest diversity and resource-based industries and economies.
Revenue generated from the project will reduce pressures on the taxpayers as well as establish healthy forests by removing hazardous fuels.	Please see analyses related to local and state tax base (Section IV.17), revenues (Section IV.24), and vegetation (Section III.7) for more details on how this project might affect pressures on taxpayers and hazardous fuels within the forest.
The proposed improvements to the road system were also recognized as being beneficial to protect riparian areas, improve recreational access, and implement weed control.	Please see analyses related to vegetation (Section III.7), soils (Section III.4), hydrology (Section III.6), and recreation (Section IV.20) for more details on how the road system with this project might affect riparian areas, recreational access, and weeds.
The utilization of biomass is encouraged.	This area contains a very high level of small diameter trees which do not meet the specifications for sawlogs. This material and landing piles of biomass would be made available to the Purchaser of the timber sale.
If any new or additional cultural resource information arises during the course of the project, this group would like to be kept informed.	DNRC will notify the commenter if additional resource information is found and, as noted in Section III.10 of this document, if previously unknown cultural or paleontological materials are identified during project-related activities, all work will cease until a professional assessment of such resources can be made.
There should be a 30-day public comment period of a draft environmental assessment.	DNRC will have a 30-day public comment period on this Checklist EA.
DNRC should develop an Old-growth retention cycle.	There are no stands meeting DNRC old-growth definition within the project area. This comment is also outside of the scope of this project. In general, DNRC manages old growth on a project by project basis according the rules described in *ARM 36.11.418*. During the course of project development, DNRC evaluates a number of factors affecting old-growth stands in order to determine the necessity for and priority of treatment. These factors include, but are not limited to: stand cover type, location and size; habitat connectivity; forest health factors; stand density and vigor; wildlife use; soils; etc. DNRC's Sustainable Yield Calculation (*DNRC 2004*) indicates that at current harvesting rates, old-growth stands would be present on at least 8 percent of state lands into the foreseeable future. This indicates that current management would provide for the retention and recruitment of old-growth stands in the future. No additional planning efforts outside of what has been stipulated in state law or Administrative Rules for Forest Management have been undertaken or are planned at this time.
An effective weed plan to maintain biodiverse forests.	Section III.7 of this document addresses the general weed management plan for this project

What is the Stillwater Unit's road budget for maintenance?	While this comment is outside of the scope of this project, the majority of the road maintenance performed on the Stillwater Unit is from sold timber sales. DNRC also uses funds from the Forest Improvement budget for road maintenance; this budget prioritizes road maintenance projects based upon available funds and emergencies.
DNRC is removing biodiversity from its forests by removing western red cedar.	The Forest Management Rules (ARM 36.11.404 through 36.11.419) describe the coarse filter approach to analyzing biodiversity of school trust lands. The coarse filter approach is addressed by favoring the appropriate mix of stands structures and compositions on state lands; this is reflected primarily by cover type and age class analyses. A fine filter approach is also employed so as to manage for a desired future condition (DFC) that promotes a diversity of habitat conditions beneficial to wildlife. Western red cedar grows in warmer, moist sites and is a component of all stands in western red cedar and hemlock habitat types; all age classes of this habitat type are represented and will continue to persist on the Stillwater Unit.
DNRC has a heavy management strategy with long term effects to soils, weeds, unnatural forest conditions, reduced carrying capacity for wildlife, reduced water quality, harmed fisheries, and too many roads.	Please refer to: -III.4 for information on soils, -III.7 for information on weeds and cover types, -III.8, III.9 and Attachment IV - WILDLIFE ANALYSIS for effects to wildlife, -III.5 and Attachment V - WATER RESOURCES for information on water quality, -III.8 and Attachment V – WATER RESOURCES for information on fisheries, and -Attachment IV -- WILDLIFE ANALYSIS and Attachment V -- WATER RESOURCES for information on roads.
DNRC has a forest that is not sustainable.	This comment is beyond the scope of this project. It pertains to the sustainable yield calculation which is a complex statewide project. The sustainable yield calculation for the Stillwater Unit and for all of DNRC's forest land is based on the best available forest inventory data, modeling current and future growth, the ability of the forest land to grow trees (site index), current board foot volume, manageable forest acres, logging systems, forest management rules, forest management policy, and expected levels of forest management activities. DNRC is required to calculate the annual sustainable yield for forested trust lands at least every 10 years (MCA 77-5-223) and it was last calculated for the HCP/EIS in September 2010.

The Draft Checklist Environmental Assessment was then published on March 16, 2012 for a 30-day period, during which the DNRC received three emails and one letter. The information contained in these comments was considered in the completion of the final Checklist EA.

Overall, soils, wildlife, vegetative, hydrological, recreation, visual, and cultural resource concerns were identified by DNRC resource specialists and field foresters as elements to be addressed on this project. With all this

information, the ID Team determined that the issues raised by the public and DNRC resource specialists directly related to the proposed actions could be addressed in one action alternative.

---

2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:

Examples: cost-share agreement with U.S. Forest Service, 124 Permit, 3A Authorization, Air Quality Major Open Burning Permit.

Montana Department of Environmental Quality (DEQ)

DNRC, classified as a major open burner by DEQ, is issued a permit from DEQ to conduct burning activities on state lands managed by DNRC. As a major open-burning permit holder, DNRC agrees to comply with the limitations and conditions of the permit.

A Short-term Exemption From Montana's Surface Water Quality Standards (318 Authorization) may also be required from DEQ if activities such as removing a native log-sill crossing on a stream would introduce sediment above natural levels into streams, and if Montana Department of Fish, Wildlife and Parks (DFWP) recommends it.

Montana/Idaho Airshed Group

DNRC is a member of the Montana/Idaho Airshed Group, which regulates prescribed burning, including both slash and broadcast burning related to forest-management activities performed by DNRC. As a member of the Airshed Group, DNRC agrees to only burn on days approved for good smoke dispersion as determined by the Smoke Management Unit in Missoula, Montana.

Montana Department of Fish, Wildlife and Parks (DFWP)

A Stream Protection Act Permit (124 Permit) is required from DFWP for activities that may affect the natural shape and form of a stream's channel, banks, or tributaries. Such activities include the installation and/or replacement of numerous stream crossing culverts.

United States Fish and Wildlife Service (USFWS)

In December 2011, the U.S. Fish and Wildlife Service issued an Incidental Take Permit under Section 10 of the Endangered Species Act. The Permit applies to select forest management activities affecting the habitat of grizzly bear, Canada lynx, and three fish species — bull trout, westslope cutthroat trout, and Columbia redband trout — on project area lands covered under the HCP. DNRC and the USFWS will coordinate monitoring of certain aspects of the conservation commitments to ensure program compliance with the HCP.

---

3. ALTERNATIVE DEVELOPMENT:

Describe alternatives considered and, if applicable, provide brief description of how the alternatives were developed. List alternatives that were considered but eliminated from further analysis and why.

The No-Action and Action Alternatives are described in this section. The decisionmaker may select a modification or combination of these alternatives.

<u>Alternatives Considered</u>

- ***No-Action Alternative***

Under this alternative, no timber would be harvested and therefore no revenue would be generated for the Common Schools Trust at this time. Salvage logging, firewood gathering, recreational use, fire suppression, noxious-weed control, additional requests for permits and easements, and ongoing management requests may

still occur. Natural events, such as plant succession, tree mortality due to insects and diseases, windthrow, down fuel accumulation, in-growth of ladder fuels, and wildfires, would continue to occur.

The No-Action Alternative is used as a baseline for comparing the effects that the Action Alternative would have on the environment and is considered a possible alternative for selection.

- ***Action Alternative***

The Action Alternative was designed to meet (1) the current Forest Management Rules that govern the forest management program; and, (2) all applicable conservation commitments contained in the Selected Alternative in the Final EIS/HCP and associated Record of Decision. The HCP identifies specific mitigation requirements for managing the habitats of grizzly bear, Canada lynx, and three fish species: bull trout, westslope cutthroat trout, and Columbia redband trout. Development of the Action Alternative is based on analyses of current forest and resource conditions within the project area and cumulative effects areas. The following are the main issues related to forest and resource conditions:

- The area is within the Stillwater Subunit of the Northern Continental Divide Ecosystem Grizzly Bear Recovery Area and within critical lynx habitat.
- The existing Fish Lake Road does not have proper drainage and cannot be maintained in its current condition or location; therefore sediment is reaching Fish Lake.
- Several native log-sill culverts are beginning to fail as stream crossing structures.
- Current cover type has departed from historic conditions.
- Approximately 50% of the project area has very dense pole-sized trees that regenerated following the 1926 fire. Some areas average 3,000 trees per acre and this tree density has reduced the growth potential of trees on these sites; a fully stocked timber stand of this age and size class would typically have between 250 to 400 trees per acre.

As a result, an Action Alternative and mitigation measures were developed which, if implemented, would:

- Limit operations within Section 19 to less than 30 operating days or schedule operations only during the grizzly bear denning period.
- Relocate Fish Lake Road away from Fish Lake and accommodate vehicle access to the lake with several short spur roads.
- Reclaim portions of the existing Fish Lake Road to provide for foot traffic.
- Reduce tree densities and reduce the hazardous forest fuel levels within proposed harvest areas.
- Continue to provide hiding cover, nesting sites, and important habitat components for wildlife.
- Improve timber stand health and strive to meet the desired forest conditions in regard to tree species occupying the project area.
- Remove deteriorating log-sill culvert crossings and upgrade the roads to meet BMPs.

A more detailed description of mitigation measures can be found in *Attachment VI - Stipulations and Specifications*.

Details

Under this alternative, the silvicultural and harvest treatments would:

- harvest approximately 1.5 to 2 million board feet of timber from approximately 505 acres;
- regenerate new stands of healthy trees on approximately 207 acres through seed tree with reserves treatments, site scarification, and natural regeneration; and
- improve the vigor and growth on 297 acres through intermediate treatments such as commercial thins, improvement cuts, and overstory removal harvest treatments.

Detailed descriptions of the harvesting methods and silvicultural prescriptions can be found in *Attachment II – Project Map and Attachment III – Prescription Table.*

The road work associated with this project would:

- Construct approximately 1.8 miles of new system road;

- Construct approximately 2.1 miles of new temporary road which would be covered with slash and debris following use, thereby keeping the area free of future motorized use;
- Reclaim approximately 1.7 miles of road and create a foot trail on part of the existing road;
- Reconstruct approximately 3.5 miles of existing road; and
- Perform road maintenance and BMP improvements on approximately 5.9 miles of road.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" If no impacts are identified or the resource is not present.*

4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

Consider the presence of fragile, compactable or unstable soils. Identify unusual geologic features. Specify any special reclamation considerations. Identify direct, indirect, and cumulative effects to soils.

The following issue statements were compiled from internal discussions regarding the effects of the proposed timber harvesting:

- *Ground based harvest techniques can displace and compact soils which can adversely affect the hydrologic function, soil structure and long-term productivity of the impacted area.*

- *Removal of both coarse and fine woody material off-site during timber harvest operations can reduce nutrient pools required for future forest stands and can affect the long-term productivity of the site.*

This analysis will qualitatively assess the risk of negative effects to soils from erosion, compaction, and displacement from each alternative.

EXISTING CONDITIONS

The analysis area, which is where timber harvesting and road construction/reconstruction are proposed, contains 4 landtypes (26C-8, 321, 353, and 55).

Past harvesting operations in the project area and analysis area include harvests in the 1920's through the 1980's, although the majority of harvesting occurred in the 1920's and 1950's. A list of harvesting in the project area can be found in the project file. Cumulative effects from past and current forest management in the proposed harvest units are as a result of skid trails and landings. Average impacts due to displacement, erosion, or severe compaction from similar landtypes on past DNRC harvests shows an average of 11.1% of the area was impacted (DNRC 2011). Impacts from past harvests on the same areas that are proposed for harvesting in this Checklist EA are estimated to be between 5 to 7 percent. These skid trails do not appear to be eroding more than the surrounding un-trailed areas, but reduced tree densities and vigor is present on these areas. The average amount of coarse woody debris found within proposed harvest areas is 5.8 tons per acre while the recommended levels range from 7 to 24 tons per acre (*Graham et al, 1994*).

ENVIRONMENTAL EFFECTS

- **Direct, Indirect, and Cumulative Effects of the No Action Alternative**

Since no additional activities would occur under this alternative, skid trails from past harvesting would continue to recover from compaction. Coarse woody debris would gradually increase over time. No additional cumulative effects would occur.

- **Direct, Indirect, and Cumulative Effects of the Action Alternative**

As BMPs and mitigations are applied (see *Attachment VI - Stipulations and Specifications*), the extent of expected impacts would be similar to those reported in the DNRC Soil Monitoring Report (*DNRC, 2005*) or approximately 11.1 percent of the harvested units. Road construction would remove approximately 10.3 acres from production. Erosion would potentially result from implementation of the project, but the magnitude and area would remain low and duration of erosion would be short. Due to BMP implementation, the risk of unacceptable adverse impacts to physical soil properties would be low. Because coarse woody debris would be left on site in amounts recommended by Graham (1994) and fine debris would be maintained as much as practicable, the risk of measureable adverse impacts to nutrient cycling would be low. Cumulatively, by designing the proposed harvesting operations with soil-moisture and season of use restrictions, and utilizing the correct method of harvesting, the risk of unacceptable long-term impacts to soil productivity from compaction, displacement and nutrient pool losses would be low.

Additional information can be found in the Project File: Soils, located at the Stillwater Unit office.

---

5. WATER QUALITY, QUANTITY AND DISTRIBUTION:
Identify important surface or groundwater resources. Consider the potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality. Identify direct, indirect, and cumulative effects to water resources.

After reviewing the public and internal comments, DNRC developed the following issue statements regarding the potential effects of the proposed timber harvesting:

- *Timber harvesting and road construction has the potential to increase water yield, which in turn may affect erosive power, sediment production and stream channel stability.*
- *Timber harvesting and road construction activities may increase sediment delivery into streams and affect water quality.*
- *Timber-harvesting activities may affect water quality and fisheries habitat by:*
  - *reducing shade and recruitable woody debris in the Riparian Management Zone (RMZ)*
  - *increasing stream temperatures, and*
  - *affecting habitat connectivity at road crossings.*

<u>Existing Conditions</u>

Designated beneficial water uses within the project area include cold-water fisheries, aquatic life support, and recreational use in the streams, wetlands, and lakes in the surrounding area. Water rights for surface water exist within three miles downstream of the project area in the Stillwater River watershed for domestic use, fish and wildlife propagation and lawn/garden use.

There are 3 watersheds analyzed for in this project area:

- **Fish Lake, Bull Lake and tributaries** – two perennial streams flow into Fish Lake and the lake is not connected to surface flow downstream. There are no perennial streams into Bull Lake and generally, Bull Lake is not connected to downstream bodies of water except when high water conditions occur during spring. The estimated sediment delivery within this watershed is 11.6 tons per year from existing roads. In-channel sediment sources are very limited within this watershed; sources of in-channel sediment are limited to outcurves and constrictions of channels that produce slightly higher velocity flows. No unstable banks were noted during field review. The water yield and cumulative effects show that since 1928, 184 acres have been harvested, equating to 7 percent of the watershed.

- **Spring Creek** – the main channel of Spring Creek flows into South Spring Lake which is approximately 3 acres in size and less than 5 feet deep. The south lake is connected to North Spring Lake which is about 5 acres, 35 feet deep and does sustain fisheries. The watershed is not connected to other bodies of water via surface flow. The estimated potential sediment delivery from non-point sources at this site is approximately 0.1 tons per year. This occurs on a site designed for a temporary bridge crossing; low to moderate ATV use occurs at this site thereby causing some of this sediment source. The conditions

for in-channel sediment sources are similar to those mentioned in the Fish Lake, Bull Lake and tributaries watershed. Approximately 88 acres have been harvested in this 1,140 acre watershed, or 8.2 percent.

- **Stillwater River** – the river is about 79 miles long and the portion that is immediately downstream of the project area is between 8 and 12 miles from the headwaters of the river. This portion of the river is a Rosgen A channel, with a bankfull width estimated at nearly 40 feet. Limited sediment sources were identified on haul roads in this watershed but the estimated potential sediment delivery is approximately 0.9 tons per year. Due to the limited proposed harvest adjacent to or near the Stillwater River, no sediment source inventory of the river banks was conducted. This is within the upper Stillwater watershed, which is 22,670 acres. Given the size of the watershed compared to the proposed harvest of 131 acres, it is very unlikely that a measurable impact would result from this level of harvest. Therefore, the Stillwater River will not be further addressed for water yield.

ENVIRONMENTAL EFFECTS

- **Direct, Indirect, and Cumulative Effects of the No-Action Alternative**

Within all 3 watersheds the existing potential sediment sources would continue until repaired by another project or funding source. In-channel sources of sediment would continue to exist and erode as natural events dictate. No increase in water yield would be associated with this alternative.

Cumulatively, the potential for sediment delivery from roads on the proposed haul routes would remain as would the in-channel sediment sources described in *EXISTING CONDITIONS*. No increase in water yield would be associated with this alternative. As vegetation continues toward pre-harvest conditions, annual water-yield increases would gradually reduce to pre-harvest levels.

- **Direct, Indirect, and Cumulative Effects of the Action Alternative**

Applying drainage improvements and BMP upgrades would be expected to reduce the potential sediment delivery to Fish Lake from the road surface. While the road improvements included in this alternative would be expected to reduce the potential sediment delivery to bodies of water, a short-term increased risk of sediment delivery would occur at crossing locations. Because vegetative filters take a couple of years to develop, short-term BMP measures such as slash filter windrow, sediment fence and wattles would be employed at locations where sediment delivery to streams may occur. TABLE 5-1: ESTIMATED POTENTIAL SEDIMENT DELIVERY shows the modeled potential sediment delivery for the project area watersheds.

TABLE 5-1: ESTIMATED POTENTIAL SEDIMENT DELIVERY (tons/year)

Watershed	Existing Estimated Potential Sediment Delivery	0 to 2 years after implementation	3+ years after implementation
Fish Lake/Bull Lake and Tributaries	**11.6**	**2.3** (9.3 tons/yr reduction)	**1.8** (9.8 tons/yr reduction)
Stillwater River	**0.9**	**0.3** (0.6 tons/yr reduction)	**0.3** (0.6 tons/yr reduction)
Spring Creek	**0.1**	**0.1**	**0.1**
Total	**12.6**	**2.7**	**2.2**

Due to the dispersed proposed harvest in tributaries across the watersheds and the discontinuous nature of streams in the project area, a low risk of increasing in-stream sediment would result from this alternative. Existing in-channel sources of sediment would be expected to continue to contribute sediment at the current rate.

Because DNRC would incorporate BMPs into the project design as required by *ARM 36.11.422 (2)* and all laws pertaining to SMZs would be followed, a low risk of sediment from timber-harvesting activities would

result from the implementation of this alternative. Therefore, the risk of long-term adverse direct or indirect effects to water quality or beneficial uses due to increased sediment would be low.

Cumulatively, a long-term reduction in direct sediment delivery may occur due to major and minor drainage improvements including converting the lakeshore road into a trail. A short-term increase in sediment delivery potential could occur with the replacement and installation of new stream crossing structures. A cumulative increase in sediment delivery as a result of timber harvesting and roadwork would have a low risk of occurring because of the BMP application and adequate stream buffers to filter potential displaced soil. In-channel sources of sediment would continue to exist and erode as natural events dictate with a low risk of affecting beneficial uses. As a result of the activities proposed and the mitigation measures recommended, a reduction in long-term sediment delivery to water bodies in the project area would be expected. The cumulative annual harvest since 1928 would be approximately 16.4 percent in the Fish Lake/Bull Lake and tributaries watershed and 18 percent in the Spring Creek watershed. This level of harvest would not be expected to result in adverse cumulative impacts. Therefore, while the cumulative water yield would increase very slightly, and because the water yield levels would remain low, a low degree of risk to water quality would result from the implementation of this alternative.

Additional information can be found in *ATTACHMENT V – Water Resources Analysis*.

---

6. AIR QUALITY:

What pollutants or particulate would be produced (i.e. particulate matter from road use or harvesting, slash pile burning, prescribed burning, etc)? Identify the Airshed and Impact Zone (if any) according to the Montana/Idaho Airshed Group. Identify direct, indirect, and cumulative effects to air quality.

- ***Direct, Indirect and Cumulative Effects of the No-Action Alternative***

Under this alternative, no timber harvest or related activities would occur. No dust associated with log hauling traffic and no burning of slash piles would occur from this proposed action.

- ***Direct, Indirect, and Cumulative Effects of the Action Alternative***

The project is located in both Airsheds 1 and 2. Some particulate matter may be introduced into the airsheds from the burning of logging slash. Slash burning would be conducted when conditions favor good to excellent smoke dispersion; therefore, impacts are expected to be minor and temporary. Burning would be conducted during times of adequate ventilation and according to existing rules and regulations. Thus, direct, indirect, and cumulative effects to air quality are expected to be minimal.

During dry periods of the year, road dust may be created on gravel and dirt (native-surfaced) roads, relative to the amount of use. The log-hauling traffic from this proposed sale may increase by 6 to 12 truckloads per day. Depending on the season of harvest and the weather conditions, road dust may increase. In cases where the Forest Officer considers the dust level unacceptable, the application of dust abatement, such as magnesium chloride, may be required.

---

7. VEGETATION COVER, QUANTITY AND QUALITY:

What changes would the action cause to vegetative communities? Consider rare plants or cover types that would be affected. Identify direct, indirect, and cumulative effects to vegetation.

<u>Existing Condition</u>

The Forest Management Rules direct DNRC to promote biodiversity by taking a coarse-filter approach that favors an appropriate mix of stand structures and composition on state lands (ARM 36.11.404). The four cover types present within the proposed harvest units are western larch/Douglas-fir (67 acres), subalpine fir (78 acres), mixed conifer (198 acres), and lodgepole pine (162 acres). The desired future cover type for these

stands, based on Stand Level Inventory (SLI) data or professional judgment, is western larch/Douglas-fir (399 acres) and lodgepole pine (106 acres).

As the result of a major fire in 1926, the majority of the stands in the project area are in the 40- to 99-year age class (approximately 75%).

The major insects and diseases present are spruce budworm, older *Scolytus* beetle attacks on grand fir, and minor amounts of mountain pine beetle in the lodgepole pine.

Following the fire, the regeneration of western larch and lodgepole pine was very dense; those areas that have not been harvested are still very dense but with sapling to small sawlog-sized trees. Although these stands do not support very high levels of large diameter downed woody material, they contain continuous fuel loads of small diameter standing trees.

Noxious weeds are present along the roads within the project area; these include oxeye daisy, spotted knapweed, and St. Johnswort.

This project area does not have any old-growth stands within it.

Using the Natural Heritage Program (NHP) database, no sensitive, threatened, or endangered plant species have been documented within the project area.

Environmental Effects

- ***Direct, Indirect and Cumulative Effects of the No-Action Alternative***

Neither cover types nor age class distributions would be directly or indirectly affected.

Stocking levels of shade-tolerant trees and downed woody debris would increase within those stands over time. Various factors, such as insects, diseases, and weather events, would eventually cause more snags to occupy portions of the stands. This, in turn, would increase the potential and/or severity of a wildfire, and in the event that one was ignited, would make it harder to suppress.

Additional mineral soil would not be exposed, and heavy tree canopies would continue to compete with weeds; therefore the risk of additional establishment of weed populations would not increase. Weed seed is primarily introduced via motor vehicle use; open roads could continue to be the pathway for new weeds to become established. Established infestations of noxious weeds are being addressed through herbicide spraying along the open roads but not behind road closures.

- ***Direct, Indirect, and Cumulative Effects of the Action Alternative***

Under the proposed action:

- 143 acres would be converted from mixed conifer cover type to western larch/Douglas-fir cover type
- 39 acres would be converted from subalpine fir cover type to western larch/Douglas-fir cover type
- 21 acres would be converted from lodgepole pine cover type to western larch/Douglas-fir cover type
- 37 acres would be converted from western larch/Douglas-fir cover type to mixed conifer cover type

In most circumstances these cover type conversions would move towards DNRC's Desired Future Conditions (DFC) with the exception of proposed Unit 11 where a healthy mix of species regenerated following a seedtree harvest in 1998. The removal of the larch overstory trees would increase the growth and vigor of the established mixed conifer regeneration. Cumulatively across the Stillwater Unit, the trend has been to apply silvicultural prescriptions to move cover types toward the DFC.

Following harvest and fuels treatments, the connectivity of dense fuel loadings and ladder fuels leading to the tree crowns would be removed in the proposed harvest units. The success of aerial and ground attacks on wildfires would likely be improved.

The spread of noxious weeds from the use of mechanized equipment and ground disturbance would be minimized, but not completely eliminated, by the washing of equipment before entering the site, sowing grass seed on roads after road construction and harvesting (ARM 36.11.445), and applying herbicide on spots of weed outbreaks along approximately 10 miles of roadway including areas behind road closures.

Additional information can be found in the Project File: Vegetation, located at the Stillwater Unit office.

---

8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:
Consider substantial habitat values and use of the area by wildlife, birds or fish. Identify direct, indirect, and cumulative effects to fish and wildlife.

A. TERRESTRIAL AND AVIAN LIFE AND HABITATS

Existing Condition

The project area provides habitat for a variety of wildlife species, including a host of species that require mature forests and/or use snags and coarse woody debris. Old-growth forest habitat is not present within the proposed project area. A large stand-replacement/mixed-severity fire that burned through the project area in 1926 has largely shaped the current composition and relative abundance of existing wildlife habitat. Within the project area, approximately 1,569 acres of densely stocked, mainly pole-sized stands are interspersed with 669 acres of scattered mature forest (≥100 years old). Deer, elk, and moose likely use the project area much of the year. Big game winter range and security habitats are present.

Environmental Effects

- ***Direct, Indirect and Cumulative Effects of the No-Action Alternative***

Under this alternative, no timber harvesting or related activities would occur. Thus, no appreciable changes to existing wildlife habitat would be anticipated.

- ***Direct, Indirect, and Cumulative Effects of the Action Alternative***

Under the Action Alternative, approximately 505 acres of subalpine fir, Douglas-fir/western larch, lodgepole pine, and mixed-conifer forest habitat would be harvested. Regeneration and overstory removal silviculture prescriptions on 207 acres would lead to young, open stands likely not suitable for forest interior species. An additional 297 acres would receive intermediate harvest treatments that would reduce canopy cover and create scattered openings, but could provide suitable habitat for some species using a mosaic of open and dense forest patches. This Action Alternative would decrease habitat for wildlife species requiring interior forest conditions, while creating habitat for species preferring more open stands of younger forest. Habitat quality of big game winter range and security habitat would be affected by the removal of crown closure. Present and future deadwood material would be altered during the proposed timber harvesting; however, snags, snag recruits, and coarse woody debris would be retained in all proposed harvest units. Overall, minor adverse direct, indirect, and cumulative effects would be anticipated on terrestrial and avian wildlife habitats.

Refer to *ATTACHMENT IV - WILDLIFE ANALYSIS* for in-depth evaluation of wildlife habitat and notes pertaining to species potentially present in the project area.

B. AQUATIC LIFE AND HABITATS

After reviewing the public and internal comments, DNRC developed the following issue statements regarding the potential effects of the proposed timber harvesting:

- *Timber-harvesting activities may affect water quality and fisheries habitat by:*
  - *reducing shade and recruitable woody debris in the Riparian Management Zone (RMZ),*
  - *increasing stream temperatures, and*
  - *affecting habitat connectivity at road crossings.*

The analysis area for fisheries habitat parameters is the RMZ along Class 1 streams in the Fish Lake/Bull Lake and tributaries watershed, and the RMZ adjacent to proposed harvest units in Section 19, T34N, R24W.

Bull trout are found in Stillwater River; westslope cutthroat trout are abundant in Stillwater River, Bull Lake and potentially Fish Lake (*MFISH 2012*). The large tributary near the south end of Fish Lake also contributes year-round surface flow and also provides fishery habitat. The fish species that inhabit this stream are assumed to be similar to the species in Fish Lake. Stocking records from DFWP shows that westslope cutthroat trout are planted in Bull Lake. Fish species present in the Stillwater River between Highway 93 and the project area include bull trout, westslope cutthroat trout, eastern brook trout, and slimy sculpin (*MFISH 2012*). This portion of the Stillwater River is considered as critical bull trout habitat (*USFWS 2010*).

FISH HABITAT PARAMETERS

- **Large Woody Debris Recruitment**

While no quantitative woody debris data is available for the streams in the project area, woody debris was observed in moderate to high levels in all of the streams within the Fish Lake/Bull Lake and tributaries watershed. Although evidence of timber harvest was observed in riparian stands along the streams, canopy coverage was very dense throughout the watershed.

- **Stream Temperature**

No temperature data for streams in the project area is available except for some spot stream temperature readings in a non-fish bearing tributary. Riparian canopy along streams, except for the Stillwater River, is very dense and provides continuous shade for the streams throughout the day. Therefore, stream temperature is likely within the natural range of variation for these streams.

- **Fish Passage**

One culvert is located on fish-bearing streams in the project area. This site is adjacent to the boat launch on Fish Lake. The existing culvert provides passage to adult eastern brook trout at low flows, but passage for all other life stages is restricted. No changes to fish connectivity—in the form of stream crossings—are proposed for any alternative, and will not be discussed further.

ENVIRONMENTAL EFFECTS

Direct, Indirect, and Cumulative Effects of the No-Action Alternative

- ***Large Woody Debris Recruitment***

  No reduction in recruitable large woody debris would result from the implementation of this alternative. Cumulatively, no reduction in recruitable large woody debris would result. Recruitable large woody debris would be retained at an adequate level to maintain stream form and function. Past impacts to recruitable woody debris would continue to ameliorate as existing harvest units revegetate and grow.

- ***Stream Temperature***

  No increases in stream temperature from a reduction in stream shading would be expected under this alternative.

Direct, Indirect, and Cumulative Effects of Action Alternative

- ***Large Woody Debris Recruitment***

  Although no harvest is proposed within 50 feet of any Class 1 stream (except for a road crossing on a non-fish bearing stream), approximately 3.0 acres of RMZ harvest is proposed. Approximately 0.8 acres of the RMZ harvest would be along potentially fish-bearing streams and the majority of the recruitable woody debris and all submerchantable vegetation would be retained. This level of harvest in the RMZ would be expected to have a low risk of adverse impacts to fish habitat. This proposal would result in low risk of adverse cumulative impacts to recruitable woody debris.

- ***Stream Temperature***

  The RMZ buffer is effective in maintaining the majority of stream shading as noted in the DNRC Forested Trust Lands Habitat Conservation Plan Final EIS (DNRC 2010). Therefore, stream shading post project would be sufficient to maintain a low risk of increasing stream temperatures due to timber harvesting. There is also a low risk of cumulative temperature increases that would result from the implementation of this alternative.

For more information on existing aquatic habitat and potential effects refer to *ATTACHMENT V– Water Resources Analysis*.

---

9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:
Consider any federally listed threatened or endangered species or habitat identified in the project area. Determine effects to wetlands. Consider Sensitive Species or Species of special concern. Identify direct, indirect, and cumulative effects to these species and their habitat.

Existing Condition

Bull Trout are listed as a Montana Animal Species of Concern and also listed as 'threatened' by the US Fish and Wildlife Service under the Endangered Species Act. Bull trout are found in Stillwater River although no direct impacts are anticipated. For more information please refer to *ATTACHMENT V – Water Resources Analysis*.

Suitable habitat for grizzly bear and Canada lynx is abundant and well connected in the project area. Both of these species likely use the proposed project area, and have been documented in their respective cumulative effects analysis areas in the past. Year-round and seasonally open roads are located within the area; serving as a source of disturbance for these species (should they be present).

The Northwest Land Office "Sensitive Species List" as developed from the State Forest Land Management Plan, was also consulted. This list includes the following species: Bald Eagle, Black-Backed Woodpecker, Coeur d'Alene Salamander, Columbian Sharp-Tailed Grouse, Common Loon, Fisher, Flammulated Owl, Gray Wolf, Harlequin Duck, Northern Bog Lemming, Peregrine Falcon, Pileated Woodpecker, and Townsend's Big-Eared Bat. The following species were included for detailed study due to historical observations and habitat present within the proposed project area: Common Loon, Fisher, Flammulated Owl, Gray Wolf and Pileated Woodpecker.

Environmental Effects

- ***Direct, Indirect and Cumulative Effects of the No-Action Alternative***

Under this alternative, no timber harvesting or related activities would occur. Thus, no appreciable changes to disturbance levels or existing grizzly bear, Canada lynx, or sensitive species' habitat conditions would be anticipated.

- ***Direct, Indirect, and Cumulative Effects of the Action Alternative***

Under the Action Alternative, harvesting would reduce habitat quality for grizzly bears on 505 acres and Canada lynx on 432 acres. Forest stands receiving intermediate harvest treatments would experience less of a reduction in habitat quality and recover previous levels of suitability more rapidly than stands receiving regeneration treatments. Connectivity of suitable habitat would not be expected to be appreciably altered. Short-term increases in open roads and potential disturbance would be expected. A long-term increase in motorized vehicle disturbance would occur along 0.9 miles of new, permanently-open road. Where harvest units would be directly adjacent to permanently open roads, visual screening along open roads (where present) would be maintained; reducing disturbance risk to bears and lynx. Overall, minor adverse direct, indirect, and cumulative effects would be anticipated that could affect grizzly bear and lynx.

Under the Action Alternative, suitable habitat for Common Loon, Fisher, Flammulated Owl, Gray Wolf and Pileated Woodpecker would be altered. The proposed logging would remove trees, some snags, and reduce forest cover. The proposed activities could temporarily (1-4 years) disturb or displace these sensitive species should they be present in close proximity to harvest units. Mitigations and vegetation treatments outlined by the Action Alternative would minimize affects to these wildlife species and meet forest management goals. Minor

adverse effects to common loons, fishers, gray wolves and pileated woodpeckers in the project area would be anticipated. Minor beneficial effects to flammulated owl habitat would be anticipated.

---

10. HISTORICAL AND ARCHAEOLOGICAL SITES:
Identify and determine direct, indirect, and cumulative effects to historical, archaeological or paleontological resources.

Within the areas that would likely be affected by the project, no documented cultural resource sites have be found by DNRC's Cultural Resource Specialist. DNRC has also conducted shovel testing on several locations within the project area; these efforts did not result in the location of additional cultural resource sites.

If previously unknown cultural or paleontological materials are identified during project related activities, all work will cease until a professional assessment of such resources can be made.

---

11. AESTHETICS:
Determine if the project is located on a prominent topographic feature, or may be visible from populated or scenic areas. What level of noise, light or visual change would be produced? Identify direct, indirect, and cumulative effects to aesthetics.

- ***Direct, Indirect and Cumulative Effects of the No-Action Alternative***

Under this alternative, no timber harvesting or related activities would occur. No short-term changes in views would occur.

- ***Direct, Indirect and Cumulative Effects of the Action Alternative***

The project area is not located on a prominent topographic area or visible from a densely populated area but portions of the project's harvest units and new road construction would be visible from open roads within the project area. Following harvest and road construction, landings and slash would be visible in the foreground views. Forest improvement work and burning of slash piles and landings would be planned within a year of harvest and road construction; this would speed up the recovery of the vegetation that would eventually mitigate the impacts of logging.

Overall, timber sale design would minimize visual impacts from foreground and background views by randomly spacing the leave trees in the units and leaving additional trees along unit boundaries and open roads.

Increased noise would occur during short periods of time within the operating season. Operations may be active 12 to 16 months on the timber sale, and less for the timber permits that would also result as a part of this project. Thus, direct, indirect, and cumulative effects to aesthetics are expected to be minimal.

---

12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:
Determine the amount of limited resources the project would require. Identify other activities nearby that the project would affect. Identify direct, indirect, and cumulative effects to environmental resources.

No demand for limited environmental resources or other activities demanding limited environmental resources were identified; therefore, no direct, indirect, or cumulative impacts would occur under either alternative.

---

13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:
List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.

- Butcher Stewart Checklist Environmental Assessment (CEA) (October 2011)
- Highway 93 Corridor CEA (November 2011)
- Proposed Mystery Fish Environmental Assessment (EA) (March 2012)
- Proposed Upper Whitefish CEA (Winter 2012)
- Final HCP/EIS (USFWS/DNRC) (September 2010)

IV. IMPACTS ON THE HUMAN POPULATION

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" If no impacts are identified or the resource is not present.*

14. HUMAN HEALTH AND SAFETY:
Identify any health and safety risks posed by the project.

No unusual safety considerations are associated with the proposed timber sale. Warning signs would be located along the Stillwater River Road cautioning recreational and residential traffic of logging activities.

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:
Identify how the project would add to or alter these activities.

The proposed timber harvest would provide continued industrial production in the region.

16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:
Estimate the number of jobs the project would create, move or eliminate. Identify direct, indirect, and cumulative effects to the employment market.

Due to the relatively small size of the proposed timber sale, no measurable direct, indirect, or cumulative effects to the employment market would be likely under either alternative, although based upon *Bureau of Business and Economic Research*, *2008* an average of 10.0 jobs per million board feet of timber harvested are maintained in the timber industry.

17. LOCAL AND STATE TAX BASE AND TAX REVENUES:
Estimate tax revenue the project would create or eliminate. Identify direct, indirect, and cumulative effects to taxes and revenue.

Due to the relatively small size of the proposed timber sale, no measurable direct, indirect, or cumulative impacts to the tax base or tax revenue would be likely from either alternative.

18. DEMAND FOR GOVERNMENT SERVICES:
Estimate increases in traffic and changes to traffic patterns. What changes would be needed to fire protection, police, schools, etc.? Identify direct, indirect, and cumulative effects of this and other projects on government services

Log trucks hauling to the purchasing mill would result in temporary increases in traffic on U.S. Highway 93. This increase is a normal contributor to the activities of the local community and would not be considered a new or increased source of traffic; therefore additional government service would not be required.

19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:
List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.

In 1996, the Land Board approved the Record of Decision (ROD) for the State Forest Land Management Plan (SFLMP). The SFLMP provides philosophical basis, consistent policy, technical rationale, and guidance for the management of forested state trust lands. In 2003, DNRC adopted the Administrative Rules for Forest Management (*Forest Management Rules; ARM 36.11.401 through 456*). The Forest Management Rules are

the specific legal resource management standards and measures under which DNRC implements the SFLMP and subsequently its forest management program. The SFLMP outlines the management philosophy, and the proposal will be implemented according to the Forest Management Rules. The philosophy is:

> *"Our premise is that the best way to produce long-term income for the trust is to manage intensively for healthy and biologically diverse forests. Our understanding is that a diverse forest is a stable forest that will produce the most reliable and highest long-term revenue stream… In the foreseeable future, timber management will continue to be our primary source of revenue and our primary tool for achieving biodiversity objectives."*

In December 2011, the Land Board approved the ROD for the Montana DNRC Forested State Trust Lands Habitat Conservation Plan (HCP). Approval of the ROD was followed by the issuance of an Incidental Take Permit (Permit) by the U.S. Fish and Wildlife Service (USFWS). The HCP is a required component of an application for a Permit which may be issued by the U.S. Fish and Wildlife Service or National Marine Fisheries Service to state agencies or private citizens in situations where otherwise lawful activities might result in the incidental take of federally-listed species. The HCP is the plan under which DNRC intends to conduct forest management activities on select forested state trust lands while implementing specific mitigation requirements for managing the habitats of grizzly bear, Canada lynx, and three fish species: bull trout, westslope cutthroat trout, and Columbia redband trout.

---

20. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:
Identify any wilderness or recreational areas nearby or access routes through this tract. Determine the effects of the project on recreational potential within the tract. Identify direct, indirect, and cumulative effects to recreational and wilderness activities.

Existing Conditions

The Stillwater River Road, off of Highway 93, is a main tributary road into the northern portion of the Stillwater State Forest and is used as access for huckleberry picking, hunting, fishing, as well as accessing Mount Marston Lookout, Upper Whitefish Lake and areas in the North Fork of the Flathead River drainage.

Currently there is vehicular access to the east side of Fish Lake and the southern end of Bull Lake. The road along Fish Lake and continuing on to Bull Lake is not maintained and is deeply rutted; generally only vehicles with high clearance are able utilize this roadway.

Two boat launch access points are along Fish Lake; several public-made campsites are also located there. One boat launch access point is located on the southern end of Bull Lake and one public-made campsite is located near that boat launch site.

Environmental Effects

- ***Direct, Indirect, and Cumulative Effects of the No-Action Alternative***

A moderate increase in use over time would occur, consistent with the area's population growth. The road along Fish Lake would continue to contribute sediment to the lake until funding is located to improve the road drainage problems.

- ***Direct, Indirect, and Cumulative Effects of the Action Alternative***

The Action Alternative would increase the amount of traffic, particularly truck traffic along the Stillwater River Road. The relocation of Fish Lake Road would improve the standard of the road, thereby increasing the types of vehicles able to access both of the lakes. All other existing road closures would remain in place. Temporary closures of the existing Fish Lake Road may occur when the relocation/ reclamation work is being done.

Depending upon funding from outside sources, the campsites may be improved and more sites located. A foot trail would be designed on the location of the existing Fish Lake Road. Minimum BMPs would be implemented during this reclamation as well as to the boat ramps to reduce sediment delivery to the lake. If additional funding is available, more improvements to these sites would be beneficial for camping experiences (such as fire pits and picnic tables as well as weed control).

Mitigations proposed to reduce the effects on recreation include:

1) DNRC would assure contractors working on state lands would follow speed limits, apply dust abatement to the road if hauling during dusty periods of the year, place caution and warning signs on the truck haul routes, and
2) DNRC would provide informational signs if road closures are necessary during roadwork phase of the timber sale.

---

21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:

Estimate population changes and additional housing the project would require. Identify direct, indirect, and cumulative effects to population and housing.

No measurable direct, indirect, and cumulative impacts related to population and housing would be expected due to the relatively small size of the proposed timber sale project.

---

22. SOCIAL STRUCTURES AND MORES:

Identify potential disruption of native or traditional lifestyles or communities.

No direct, indirect, and cumulative impacts related to social structures and mores would be expected under either alternative.

---

23. CULTURAL UNIQUENESS AND DIVERSITY:

How would the action affect any unique quality of the area?

No direct, indirect, and cumulative impacts related to cultural uniqueness or diversity would be expected under either alternative.

---

24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:

Estimate the return to the trust. Include appropriate economic analysis. Identify potential future uses for the analysis area other than existing management. Identify direct, indirect, and cumulative economic and social effects likely to occur as a result of the proposed action.

- ***Direct, Indirect and Cumulative Effects of the No-Action Alternative***

No revenue would be generated for the Common Schools Trust at this time. Small timber permits could yield some additional revenue.

- ***Direct, Indirect and Cumulative Effects of the Action Alternative***

The timber harvest would generate approximately $35,500 for the Common Schools Trust and approximately $44,000 in Forest Improvement (FI) fees would be collected for FI projects. This is based on a stumpage rate of $2.92 per ton, multiplied by the estimated volume of tons. This stumpage rate was derived by comparing attributes of the proposed timber sale with the attributes and results of other DNRC timber sales recently advertised for bid. Costs related to the administration of the timber sale program are only tracked at the Northwestern Land Office (NWLO) and Statewide level. DNRC does not track project-level costs for individual timber sales. An annual cash flow analysis is conducted on the DNRC forest product sales program. Revenue and costs are calculated Statewide and by the NWLO. From 2006 through 2010, revenue-to-cost ratio of the Northwestern Land Office was 2.51. This means that, on average, for every $1.00 spent in costs, $2.51 in revenue was generated. Costs, revenues, and estimates of return are estimates intended for relative comparison of alternatives. They are not intended to be used as absolute estimates of return.

EA Checklist Prepared By:	Name:	Michael McMahon, Chris Forristal, Marc Vessar	Date:	4/27/2012
	Title:	Management Forester, Wildlife Biologist, Hydrologist		

V. FINDING

25. ALTERNATIVE SELECTED:

An Interdisciplinary team (ID Team) has completed the Environmental Analysis Checklist (EAC) for the proposed Fish Bull Face Timber Sale Project. Following a thorough review of the EAC, project file, public correspondence, and Department policies and rules, the decision has been made to select the Action Alternative.

The Action Alternative meets the intent of the project objectives as stated in Section I – *Type and Purpose of Action*. Specifically the project would:

- Harvest approximately 1.5 to 2 million board feet of timber from the Stillwater State Forest to regenerate new stands of healthy trees while improving the vigor and growth of trees remaining in the forest and reduce the amount of forest fuels and density of trees to mitigate potential effects of wildland fire.

- Relocate Fish Lake Road away from the lakeshore and improve drainage to provide a greatly improved situation in terms of travel and potential sediment delivery to streams and lakes over the long term.

- Generate approximately $35,500 for the Common Schools Trust and collect approximately $44,000 in Forest Improvement (FI) fees for FI projects. In addition, approximately $125,000 of road construction would be accomplished for a total benefit value to the Trust of $204,500.

DNRC is required by law to administer these trust lands to produce the largest measure of reasonable and legitimate return over the long run (*Enabling Act of February 22, 1889; 1972 Montana Constitution, Article X Section 11;* and, *77-1-212 MCA*). The Action Alternative was designed to be in full compliance of State Forest Land Management Plan (SFLMP), the Administrative Rules for Forest Management (Forest Management Rules; ARM 36.11.401 through 471), and conservation commitments contained in the Selected Alternative in the Final EIS of the Montana DNRC Forested State Trust Lands Habitat Conservation Plan (HCP) and associated Record of Decision (ROD), as well as other applicable state and federal laws.

26. SIGNIFICANCE OF POTENTIAL IMPACTS:

The identified resource management concerns have been fully addressed in the environmental analysis that was conducted. Specific project design features and various recommendations of the resource management specialists have been implemented to ensure that this project will fall within the limits of acceptable environmental change. Taken individually and cumulatively, the proposed activities are common practices, and no project activities will be conducted on important fragile or unique sites. I find there will be no significant impacts to the human environment as a result of implementing the Action Alternative. In summary, I find that the identified adverse impacts will be controlled, mitigated, or avoided by the design of the project to the extent that the impacts are not significant.

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

[ ]	EIS	[ ]	More Detailed EA	[X] No Further Analysis

EA Checklist Approved By:	**Name:**	Brian Manning
	Title:	Unit Manager, DNRC Stillwater
Signature: /s/ Brian Manning		**Date**: 4/30/2012

Attachment I:

REFERENCES

Aney, W. and R. McClelland. 1985. Pileated Woodpecker Habitat Relationships (revised). Pages 10-17 in Warren, N. eds. 1990. Old Growth Habitats and Associated Wildlife Species in the Northern Rocky Mountains. USFS, Northern Region, Wildlife Habitat Relationships Program R1-90-42. 47pp.

Arjo,W. M., D. H. Pletscher, and R. R. Ream. 2002. Dietary Overlap between Wolves and Coyotes in Northwestern Montana. Journal of Mammalogy 83:754-766.

Bull, E. L., and J. A. Jackson. 1995. Pileated woodpecker: Dryocopus pileatus. American Ornithologists' Union. Washington DC. 24pp.

Bull, E.L., C. G. Parks, and T. R. Torgersen. 1997. Trees and Logs Important to Wildlife in the Interior Columbia River Basin. General Technical report PNW-391. USDA Forest Service, Pacific Northwest Research Station, Portland, Oregon. 55pp.

Buskirk, S.W., and R.A. Powell. 1994. Habitat ecology of fishers and American martens. Pages 283-296 *in* Buskirk, S.W., A. Harestad, M. Raphael, eds. Biology and conservation of martens, sables and fishers. Cornell University Press, Ithaca, New York.

Croskery, P. R. 1991. Common Loon, Gavia immer, nesting success and young survival in northwestern Ontario. Canadian Field-Naturalist 105:45-48.

DNRC, 2004. DNRC compiled soils monitoring report on timber harvest projects. Missoula, Montana.

DNRC 2010. DNRC Canada lynx habitat mapping protocols for implementation of the HCP. Montana Department of Natural Resources and Conservation Forested Trust Lands Habitat Conservation Plan Final EIS. September 2010. Vol. II, Appendix B, pp. B-5 to B-19.

Ferruzzi, C. 2012. Biologist, Fortine Ranger District, Kootenai National Forest, USDA Forest Service, Fortine, Montana. Phone discussion regarding loon nesting and biology in the vicinity of Fish and Bull lakes, Stillwater State Forest. February, 2012. DNRC Northwest Land Office. Kalispell, MT.

Fischer, W.C., and A.F. Bradley. 1987. Fire ecology of western Montana forest habitat types. USDA Forest Service, General Technical Report INT-223. 95pp.

Foresman, K.R.. 2001. The wild mammals of Montana. Special Publication 12. American Society of Mammalogists. Allen Press, Kansas. 278pp.

Fuller, T. K.,W. E. Berg, G. L. Radde, M. S. Lenarz, and G. B. Joselyn. 1992. A History and Current Estimate of Wolf Distribution and Numbers in Minnesota. Wildlife Society Bulletin 20:42-55.

Garrott, R., S. Creel, and K. Hamlin. 2006. Monitoring and Assessment of Wolf-Ungulate Interactions and Population Trends within the Greater Yellowstone Area, SW Montana and Montana Statewide. Unpublished report at: *http://www.homepage.montana.edu/~rgarrott/wolfungulate/index.htm*

Graham, R.T., A.E. Harvey, M.F. Jurgensen, T.B. Jain, J.R. Tonn, and D. S. Page-Dumroese. 1994. *Managing Coarse Woody Debris in Forest of the Rocky Mountains.* USDA Forest Service Research Paper. INT-RP-447. 13 pp.

Green, P., J. Joy, D. Sirucek, W. Hann, A. Zack, and B. Naumann. 1992. Old Growth Forest Types of the Northern Region. R-1 SES. USDA Forest Service, Northern Region, Missoula Montana 60pp.

Harger, R. 1978. Old-growth forests: managing for wildlife. USDA Forest Service, Northern Region, Missoula, Montana. 58pp.

Harrelson, C.C., C.L. Rawlins, J.P. Potyondy. 1994. Stream channel reference sites: an illustrated guide to field technique. General Technical Report RM-245. U.S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station, Fort Collins, Colorado.

Harris, R.B. 1999. Abundance and Characteristics of Snags in Western Montana Forests. General Technical report RMRS-GTR-31. USDA Forest Service, Rocky Mountain Research Station, Ogden, UT. 19pp.

Haupt, H.F., et al. 1974. Forest hydrology part II: hydrologic effects of vegetation manipulation. USDA Forest Service, Region 1. Missoula, Montana.

Hejl, S. J. and R. E. Woods. 1991. Bird assemblages in old-growth and rotation-aged Douglas-fir/ponderosa pine stands in the Northern Rocky Mountains: a preliminary assessment. Pages 93-100 *in* D. M. Baumgartner and J. E. Lotan, eds. Proc. Symposium: Interior Douglas-fir: the species and its management. Washington State University, Pullman, Washington. 306pp.

Heinemeyer, K. S., and J. L. Jones. 1994. Fisher biology and management in the western United States: A literature review and adaptive management strategy. USDA Forest Service, Northern Region, Missoula, Montana. 108pp.

Hillis, J.M., and M.J. Thompson, J.E. Canfield, L.J. Lyon, C.L. Marcum, P.M. Dolan, and D.W. McCleerey. 1991. Defining elk security: the Hillis paradigm. Pages 38-43 in A.G. Christensen, L.J. Lyon, and T.N. Lonner, comps., Proc. Elk Vulnerability Symp., Mont. State Univ., Bozeman, Montana. 330pp.

Johnson, S. 1984. Home range, movements, and habitat use of fishers in Wisconsin. M.S. Thesis, University of Wisconsin, Stevens Point, Wisconsin. 78pp.

Jones, J.L. 1991. Habitat use of fisher in north-central Idaho. M.S. Thesis, University of Idaho, Moscow, Idaho. 147 pp.

Kelly, L. 1992. The effects of human disturbance on Common Loon productivity in northwestern Montana. MS Thesis, Montana State University, Bozeman, Montana.

Kuennen, Louis J. and Marci L. Nielsen –Gerhardt. 1995. Soil survey of Kootenai National Forest area, Montana. USDA Forest Service, Kootenai National Forest, Libby, Montana.

Kunkel, K.E., D.H. Pletscher, D.K. Boyd, R.R. Ream, and M.W. Fairchild. 2004. Factors Correlated with Foraging Behavior of Wolves in and near Glacier National Park, Montana. Journal of Wildlife Management 68(1): 167-178.

Laudon, K. 2011. Region 1 Wolf Management Specialist, Montana Fish, Wildlife and Parks, Wildlife Division, Kalispell, Montana. Email exchange with DNRC wildlife biologist regarding the current status and denning/rendezvous sites of the Murphy Lake wolf pack. February, 2011. DNRC Northwest Land Office. Kalispell, MT.

Losensky, J.B. 1997. Historical vegetation of Montana. Prepared for DNRC. Unpublished report on file at DNRC Forest Management Bureau, Missoula, MT. 100 pp.

Mace, R. and L. Roberts. 2011. Northern Continental Divide Ecosystem Grizzly Bear Monitoring Team Annual Report, 2009-2010. Montana Fish, Wildlife & Parks, 490 N. Meridian Road, Kalispell, Montana. Unpublished data.

Mace, R.D., J.S. Waller, T.L. Manley, L.J. Lyon, and H. Zuuring. 1997. Relationships among Grizzly Bears, Roads, and Habitat in the Swan Mountains, Montana. Pages 64-80 *in* Mace, R.D., and J.S. Waller. 1997. Final Report: Grizzly Bear Ecology in the Swan Mountains, Montana. Montana Fish, Wildlife and Parks, Helena, Montana. 191pp.

Martinson, A. H. and W. J. Basko. 1998. Soil Survey of Flathead National Forest Area, Montana. USDA Forest Service, Flathead National Forest, Kalispell, Montana.

McCallum, D.A. 1994. Flammulated Owl (*Otus flammeolus*). In: The birds of North America. No. 93. Philadelphia, PA: American Ornithologists' Union; Washington, DC: Academy of Natural Science. 23 pp.

McClelland, B.R. 1979. The pileated woodpecker in forests of the Northern Rocky Mountains. Pages 283-299 *in* Role of insectivorous birds in forest ecosystems. Academic Press.

Oakleaf, J.K., D. L. Murray, J. R. Oakleaf, E. E. Bangs, C. M. Mack, D. W. Smith, J. A. Fontaine, M. D. Jimenez, T. J. Meier, and C. C. Niemeyer. 2006. Habitat Selection by Recolonizing Wolves in the Northern Rocky Mountains of the United States. Journal of Wildlife Management 70:554-563.

MNHP. 2011. Tracker data. Montana Natural Heritage Program online database query for the Selow Valley Timber Sale project area. http://mtnhp.org/Tracker/NHTMap.aspx

Parks, C.G. and D.C. Shaw. 1996. Death and decay: A vital part of living canopies. Northwest science. Vol. 70, special issue: 46-53.

Pfister, R., B. Kovalchik, S. Arno, and R. Presby. 1977. Forest habitat types of Montana. USDA For. Serv. Gen. Tech. Rep. INT-34. Intermountain Forest and Range Experiment Station Ogden, Utah. 174pp.

Powell, R. 1982. The fisher: National history, ecology, and behavior. University of Minnesota Press, Minneapolis, Minnesota. 217pp.

Raskin, Edward B., Casey J. Clishe, Andrew T. Loch, Johanna M. Bell. 2006. Effectiveness of timber harvest practices for controlling sediment related water quality impacts. Journal of the American Water Resources Association 42 (5), 1307–1327.

Rosgen, D. L.1996. Applied River Morphology. Wildland Hydrology, Pagosa Springs, Colorado.

Ross, C. P., Andrews, D. A., and Witkind, I. J., 1955, Geologic map of Montana: U. S. Geol. Survey. Accessed through Natural Resource Information System at http://nris.mt.gov/.

Ruggiero, L. F., Aubry, K. B., Buskirk, S. W., Koehler, G. M., Krebs, C. J., McKelvey, K. S., and J. R. Squires. 1999. Ecology and conservation of lynx in the United States. General Technical Report RMRS-GTR-30WWW. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. Fort Collins, Colorado. 473 pp.

Ruediger, B., J. Claar, S. Mighton, B. Nanaey, T. Tinaldi, F. Wahl, N. Warren, D. Wenger, A. Williamson, L. Lewis, B. Holt, G. Patton, J. Trick, A. Vandehey, and S. Gniadek. 2000. Canada Lynx Conservation Assessment (2nd Edition). USDA Forest Service, USDI Fish and Wildlife Service, USDI Bureau of Land Management, and USDI National Park Service. Missoula, Montana. 122 pp.

Servheen, C., S. Herrero, and B. Peyton (compilers). 1999. Bears. Status survey and conservation action plan. IUCN/SSC Bear and Polar Bear Specialist Groups, IUCN, Gland, Switzerland and Cambridge, U.K. 309 pp.

Sime, Carolyn A., V. Asher, L. Bradley, N. Lance, K. Laudon, M. Ross, A. Nelson, and J. Steuber. 2011. Montana gray wolf conservation and management 2010 annual report. Montana Fish, Wildlife & Parks. Helena, Montana. 168 pp.

Squires, J.R., N.J. DeCesare, J.A. Kolbe, and L. F. Ruggiero. 2010. Seasonal resource selection of Canada lynx in managed forests of the Northern Rocky Mountains. Journal of Wildlife Management 74:1648-1660.

Titus, J. R., and L. W. VanDruff. 1981. Response of the common loon to recreational pressure in the Boundary Waters Canoe Area, northeastern Minnesota. Wildlife Monographs 79:5-59.

Troendle, C.A., Nankervis, J.M., Peavy, A. 2007. The Herger-Feinstein Quincy Library Group Project—Impacts of Vegetation Management on Water Yield Final Report. 23pp.

USFWS and DNRC. 2010. Montana Department of Natural Resources and Conservation Forested Trust Lands Habitat Conservation Plan, Final Environmental Impact Statement, Volumes I and II. U.S. Department of Interior, Fish and Wildlife Service, Region 6, Denver, Colorado, and Montana Department of Natural Resources and Conservation, Missoula, MT. September 2010.

USFWS. 1993. Grizzly Bear Recovery Plan. Missoula Montana. 181pp.

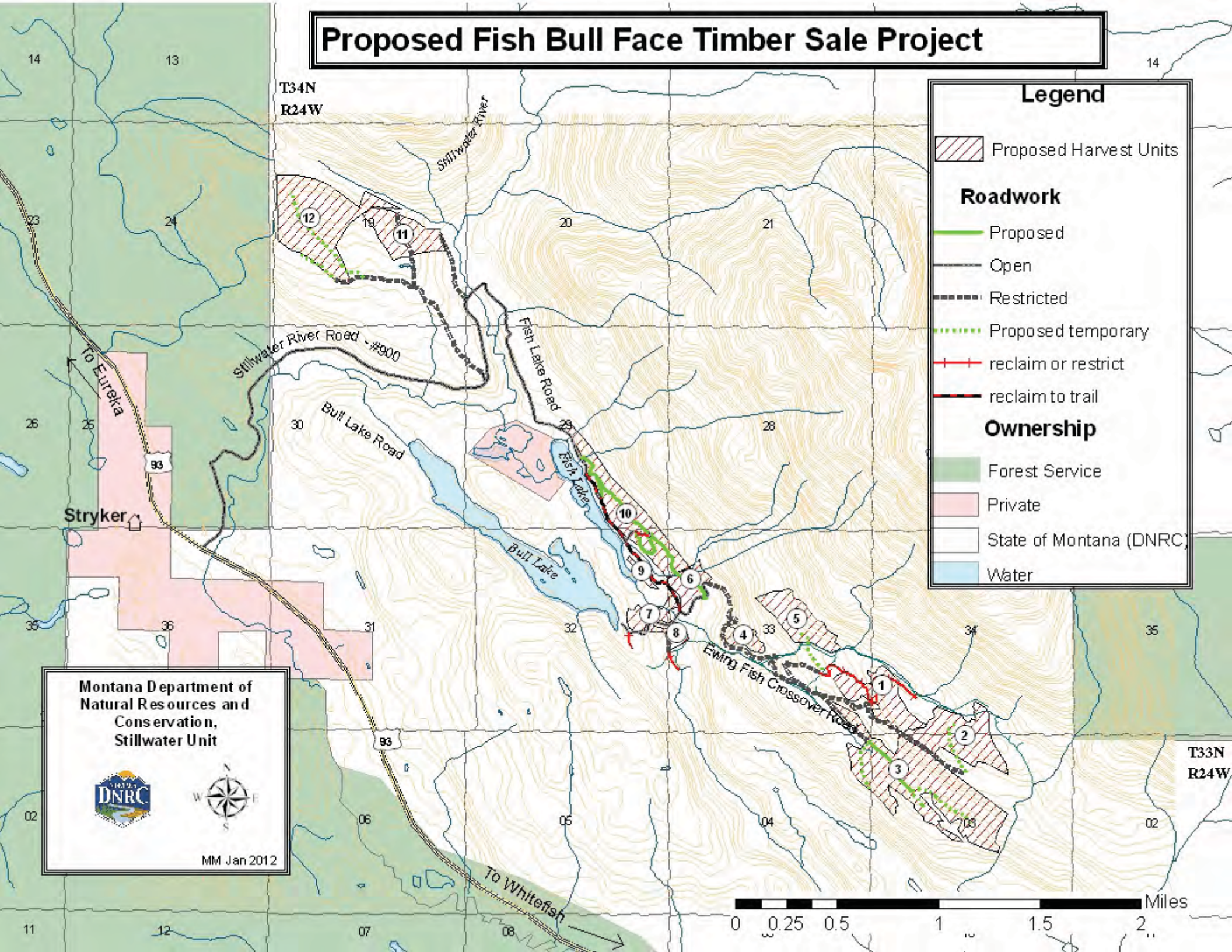
Warren, N.M. (ed.) 1990. Old-growth habitats and associated wildlife species in the northern Rocky Mountains. USDA Forest Service, Northern Region, Missoula, Montana.

Warren, N.M. 1998. Old-growth associated wildlife: status and management strategies. Land management technical note. No. 16. Flathead National Forest. 19pp.

Watershed Consulting, 2009. Flathead-Stillwater TMDL Planning Area Sediment and Habitat Assessment Summary Report. Prepared for Montana DEQ under contract #205037-TO9.

Wittinger, W.T. 2002. Grizzly bear distribution outside of recovery zones. Unpublished memorandum on file at USDA Forest Service, Region 1. Missoula, Montana. 2pp.

Proposed Fish Bull Face Timber Sale Project



Attachment III:
FISH BULL FACE TIMBER SALE PRESCRIPTIONS TABLE

Unit number	Est. Acres	Prescription	Marking guides	Particulars involved in unit
1	39	Commercial thin/ improvement cut	**Cut by Description**: • Species designated to cut = LPP, SAF and GF • Leave all trees > 18" dbh • Spacing on all other sawlog species shall be 25 feet	- ERZs exist around steep draw areas and springs; - SMZs - there will be no harvest within the Class 2 stream; - Jump up road required to landing; - Trample slash in with excavator or dozer; - Plan to pull 2 cmp's off of old road.
2	52	Seedtree w/ reserves	• Mark 6-12 seedtrees per acre • Keep up to 4 TPA >21 • Mark about 10 additional TPA that are displaying good vigor, etc.	- There will be a temp road going into the unit; - Mark RMZ along Class 1 stream, approx 300 feet long x 97 feet wide; - Dozer and excavator pile; - Plan for natural regeneration.
3	133	50% commercial thin; 50% regeneration cut through Seedtree with reserves prescription	**Cut by Description**: • Species Designated to cut = LPP, SAF and GF • Leave all trees > 18" dbh • Spacing on all other sawlog species shall be 25 feet.	- ERZ's exist around steep areas and springs; - SMZs – interior SMZ marked with "Xs", cut tree mark to SMZ specifications for Class 2 stream and retain minimum of 40% canopy coverage; - Dozer and excavator pile and scarify; - Plan for natural regeneration.
4	10	Regeneration through Clearcut with reserves prescription	**Cut by Description**: • Species Designated to cut = LPP, SAF and GF • Leave all trees > 18" dbh	- Excavator pile; - Plan for natural regeneration.
5	36	40% commercial thin; 60% regeneration cut through Seedtree with reserves prescription	**Cut by Description**: • Species Designated to cut = LPP, SAF and GF • Leave all trees > 20" dbh unless marked to cut • Spacing on trees 12 to 20"dbh shall be 60 feet • Spacing on all other sawlog species shall be 25 feet.	- No scarification required; - Plan for natural regeneration; - Construct and reclaim temporary road - use log sill crossing and reclaim crossing site.
6	18	100% commercial thin	• Retain average 60 sq ft of sawlogs/acre above proposed road; favor western larch. • Harvest nonsawlog volume only below proposed road.	- SMZ and RMZ (97 feet) on Class 1 stream – no harvest within 50 feet of stream and retain 50% of trees between 50 and 97 feet; - Several interior SMZs are in place on top of unit; mark to SMZ law; - Excavator pile if needed.

Unit number	Est. Acres	Prescription	Marking guides	Particulars involved in unit
7	13	Seedtree with reserves	**Cut by Description**: • Species Designated to cut=GF, SAF & LPP. • All other species will be cut tree marked with Blue band. • Retain 6 to 12 seedtrees per acre • Keep 2 snags and 2 recruits >21" dbh but may need to leave more 21"+ trees when not enough snags.	- 100-foot buffer along open road; - ERZ for steep area; - Excavator scarify.
8	7	Seedtree with reserves	• Mark 6-12 seedtrees per acre • Keep up to 4 TPA >21	- 100-foot buffer along open road where topography doesn't limit viewing distance; - SMZ required on Class 2 stream; - Excavator pile.
9	3	Commercial thin	• Retain 60 square feet of basal area per acre of primarily western larch	- The Class 1 SMZ crosses back and forth over the existing Fish Bull Road, which is to be reclaimed to a trail; - Class 1 SMZ along Fish Lake and unnamed Class 1 stream have an associated RMZ required between 50 and 97 feet; retain 50% of sawlogs in this area.
10	63	Commercial thin and improvement cuttings	• Estimate 50% of the area can feasibly be harvested, thinned and have fuels reduction completed. • Harvesting in most of these areas would be accomplished with timber permits.	- Identify areas along the new proposed Fish Lake Road where we can do some improvement cutting and commercial thinning, as well as, fuels reduction; - Pile and burn slash
11	37	Overstory Removal Harvest	• Mark to leave 4 of the largest trees per acre for snag recruitment. • Retain all snags	- Remove overstory trees on stocked stand of regeneration; - Harvest within 30 days or within Grizzly Bear denning period; - No site preparation required.
12	94	Improvement cut	**Cut by Description**: • Species Designated to cut = LPP, SAF and GF • Leave all trees > 18" dbh • Spacing on all other sawlog species shall be 25 feet.	- ERZ's exist around steep areas and springs; - No site preparation required; - Harvest within 30 days or within Grizzly Bear denning period .

NOTES: ERZ=Equipment Restriction Zone; TPA=Trees Per Acre; LTM=Leave Tree Mark; SMZ=Streamside Management Zone; RMZ=Riparian Management Zone