

CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name:	McKelvey Alternative Practice
Proposed Implementation Date:	Upon Signature
Proponent:	Patrick McKelvey
Location:	Section 1 Township 8 North Range 5 West Section 36 Township 9 North Range 5 West (see map)
County:	Jefferson

I. TYPE AND PURPOSE OF ACTION

The proponent, Patrick McKelvey is requesting an SMZ Alternative Practice (AP) to rule 4: (36.11.304) Equipment Operation in the SMZ, Rule 5: (36.11.305) Retention of trees in the SMZ. On private land owned by Mr. McKelvey located in located T08N R05W Section 1 and T09 R05W Section 36 along approximately 1200 feet of Buffalo Creek a Class-1 stream and associated wetland. This area has been significantly affected by mountain pine beetle in the lodgepole pine stands.

According to MCA 77-5-301 through 307, DNRC is authorized to administer and enforce the provisions of the SMZ Law. This Law was developed to protect the public interest of water quality and quantity within forested areas; provide for standards, oversights and penalties to ensure forest practices conserve the integrity of SMZ's; provide guidelines for wildlife management within SMZ's; and allow operators necessary flexibility to use practices appropriate to site-specific conditions in the SMZ. ARM 36.11.301 through 313 further specify the design of SMZ boundaries, allowable activities and prohibitions within the SMZ, penalties and other related provisions.

According to MCA 77-5-304 and ARM 36.11.310, DNRC may approve alternative practices that are different from practices required by the SMZ Law only if such practices would be otherwise lawful and continue to conserve or not significantly diminish the integrity and function of the SMZ. Treatment would be limited to the operation of a Feller-Buncher type machines inside the 50 foot SMZ, but no closer than 20 feet to the ordinary high water mark (OHWM). This treatment would be conducted on slopes less than 15% and would allow removal of lodgepole to below minimum retention standards as identified under Rules 4 and 5 in the *Montana Guide to the Streamside Zone Law and Rules 2006* (ARM 36.11.310-313). Additional stipulations of this request would include:

- Operation of timber harvesting equipment inside the 50 foot SMZ would be allowed, but no closer than 20 feet from the ordinary high water mark. Equipment operation would be in a straight in and out manner, except on designated and pre-approved skid trails that parallel the stream. The designated skid trails must be kept to the shortest distance possible and will stay more than 20 feet from the ordinary high water mark.
- Trees would be placed outside of the 50 foot buffer. Slash will be required to be placed inside the SMZ as mitigation to soil erosion on disturbed sites.
- Operation would only occur during periods when soil disturbance can be minimized under dry conditions or of frozen ground to four inches and/or snow covered to eight inches.
- If soil disturbance occurs in the SMZ the disturbed areas will be slash-filtered and grass seeded.
- Quaking aspen and all brush species would be retained and protected to the greatest extent possible.
- Douglas-fir and Engelmann spruce would be subject to the retention tree requirements in Rule 5.

II. PROJECT DEVELOPMENT

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

Provide a brief chronology of the scoping and ongoing involvement for this project.

Patrick McKelvey-Proponent
Northwest Management, Inc.-Proponents Consultant
MT DNRC-Helena Unit

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

DNRC is not aware of other agencies besides the proponent with jurisdiction. DNRC is not aware of other permits needed to complete this project.

3. ALTERNATIVES CONSIDERED:

Alternative A –No Action: The No Action alternative would have no equipment operation inside the 50 SMZ buffer. Beetle-killed trees left at the retention tree required level.

Alternative B – Action: Please see *Type and Purpose of Action* for a full description of this alternative.

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 any cumulative impacts to soils.

Alternative A - No Action: No equipment operation would be allowed inside the 50 foot SMZ. Minimum retention standards would be recognized.

Alternative B – Action: Equipment operation would occur on soils that are described as "moderately suited" for timber harvest in the Web Soil Survey (see attached soil survey). Equipment operation inside the SMZ would be minimal and would be limited to areas where slope is less than 15% and more that 20' away from the ordinary high water mark. Mitigation measures would include operating season restrictions that require ground to be dry or snow covered to eight inches and/or frozen to four inches. In addition, grass-seeding and installation of erosion control measures such as a slash-filter windrow on any disturbed area upon completion of activity would be required. Minimal direct, indirect or cumulative impacts to soil stability and compaction are anticipated due to the operation restrictions and mitigation measures.

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 cumulative effects to water resources.

Alternative A - No Action: No equipment operation would be allowed inside the 50 foot SMZ. Minimum retention standards would be recognized. High volumes of wood left in the SMZ could contribute to downstream infrastructure damage, and alter the existing stream course flow.

Alternative B – Action: The harvest of trees within the first 20 feet of the SMZ may introduce low levels of sediment delivery to adjacent waterbodies. However, the 20 foot equipment exclusion zone would be expected to provide adequate filtration for any displaced soils or increased runoff due to compacted soils in the 20 to 50

foot AP zone. Increases in sedimentation would be expected to be minimal and temporary due to operations only occurring on slopes less than 15% and application of mitigation measures. Mitigation measures include imposing seasonal operating restrictions that require snow covered ground to eight inches and/or frozen to four inches; and requiring grass seeding and installation of erosion control measures such as a slash-filter windrow on any disturbed area upon completion of operations. Removal of the dead trees would expedite natural regeneration and cumulative effects to vegetative communities would decrease as trees regenerate and replace those that are harvested. The expedited regeneration would provide shading, and help protect the natural shape and function of the stream course. DNRC may monitor AP sites to verify effectiveness. Minimal direct, indirect, and cumulative impacts to water quality and quantity are expected due to operation restrictions and mitigation measures.

6. AIR QUALITY:

What pollutants or particulate would be produced? Identify air quality regulations or zones (e.g. Class I air shed) the project would influence. Identify cumulative effects to air quality.

Alternative A - No Action: Timber harvest activities will occur in Alternative-A. Slash consisting of tree limbs and tops and other vegetative debris would be piled throughout the project area during harvesting. Slash would ultimately be burned after harvesting operations have been completed. Burning would introduce particulate matter into the local airshed, temporarily affecting local air quality. Over 70% of emissions emitted from prescribed burning are less than 2.5 microns (National Ambient Air Quality PM 2.5). High, short-term levels of PM 2.5 may be hazardous.

Burning within the project area would be short in duration and would be conducted when conditions favor good to excellent ventilation and smoke dispersion as determined by the Montana Department of Environmental Quality would burn only on approved days. Thus, direct and indirect, effects to air quality due to slash burning associated with the proposed action would be minimal.

Alternative B – Action:

Additional slash created from harvesting an additional 7 acres of timber and to below the retention tree requirements for lodgepole pine, consisting of tree limbs and tops and other vegetative debris would be piled throughout the project area. This would create an additional estimated 40 tons of slash compared to the No Action Alternative. Slash would ultimately be burned after harvesting operations have been completed. Burning would introduce particulate matter into the local airshed, temporarily affecting local air quality. Over 70% of emissions emitted from prescribed burning are less than 2.5 microns (National Ambient Air Quality PM 2.5). High, short-term levels of PM 2.5 may be hazardous. Burning within the project area would be short in duration and would be conducted when conditions favor good to excellent ventilation and smoke dispersion as determined by the Montana Department of Environmental Quality would burn only on approved days. Thus, direct and indirect, effects to air quality due to slash burning associated with the proposed action would be minimal.

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 cumulative effects to vegetation.

Alternative A - No Action: If no action is taken, dead lodgepole will continue to fall as they deteriorate structurally. Fallen trees have the potential to damage infrastructure if washed down stream in flooding.

Alternative B – Action: Vegetative communities would be affected to the extent that lodgepole pine would be reduced to below minimum retention standards as outlined in Rule 5 of the *Montana Guide to the Streamside Management Zone Law and Rules* handbook. Other species of trees such as Douglas-fir, Engelmann spruce and quaking aspen would be retained where present and understory vegetation would be protected to the greatest extent possible. Removal of the dead trees would expedite natural regeneration and cumulative effects to vegetative communities would decrease as trees regenerate and replace those that are harvested.

8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:

Consider substantial habitat values and use of the area by wildlife, birds or fish. Identify cumulative effects to fish and wildlife.

Alternative A – No Action: Due to high mortality in the stand to be marginal at best for terrestrial and avian habitat. Dead lodgepole pine would eventually fall over. (See attached list for *Species of Concern*)

Alternative B – Action: Due to the relatively small nature of the timber proposed timber harvest, impacts are not expected. Alternative B may reduce recruitable woody debris in westslope cutthroat trout streams. In areas of pure lodgepole pine stands, stream shading would be reduced and peak seasonal stream temperatures may see an increase in July and August. All other species of trees and brush would be retained and protected to the greatest extent possible. Cumulative impacts would be expected to be short term and minor due to operating restrictions and mitigation measures. (See attached list for *Species of Concern*)

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 cumulative effects to these species and their habitat.

Alternative A – No Action: A query of the Montana Natural Heritage Program identifies the area as being possible habitat for wolverine. Due to the proximity of heavy residential activities and access to cabin sites, this area is not ideal habitat for wolverine. Minimum retention standards would be adhered to as well as equipment restrictions. Dead lodgepole pine would eventually be removed in a non-commercial manner. (See attached list for *Species of Concern*)

Alternative B – Action: Due to the relatively small nature of the proposed timber harvest, impacts are not expected. If a sighting of any of the listed species of concern (or evidence such as nests, dens etc...) occurs, operations would be halted, or not allowed, until further assessment can take place. (See attached list for *Species of Concern*)

10. HISTORICAL AND ARCHAEOLOGICAL SITES:

Identify and determine effects to historical, archaeological or paleontological resources.

A systematic inventory of such resources has not occurred. Because the project is not located on state land, the DNRC has no jurisdiction to require landholders to conduct professional level inventories to identify, or develop treatment plans for, privately owned National Register eligible properties.

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 cumulative effects to aesthetics.

Alternative A – No Action: Minimum retention standards would be adhered to as well as equipment restrictions. Dead lodgepole would eventually fall down and be left on the ground. Aesthetics would be degraded due to the jack straw nature of the down woody debris.

Alternative B – Action: Landowners would see this as an improvement to their property. The speed of regeneration would increase and eventually soften and replace aesthetic quality damaged by mountain pine beetle infestation.

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 cumulative effects to environmental resources.

Alternative A- No Action: No direct, indirect, or cumulative impacts will occur.

Alternative B- Action: No direct, indirect, or cumulative impacts are anticipated to occur.

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.

Alternative A- No Action: No direct, indirect, or cumulative impacts will occur.

Alternative B Action: No direct, indirect, or cumulative impacts are anticipated to occur.

IV. IMPACTS ON THE HUMAN POPULATION
<ul style="list-style-type: none">• <i>RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.</i>• <i>Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.</i>• <i>Enter "NONE" if no impacts are identified or the resource is not present.</i>

14. HUMAN HEALTH AND SAFETY:

Identify any health and safety risks posed by the project.

Alternative A – No Action: Improvements such as culverts and bridges would be put in jeopardy as down trees impede water movement.

Alternative B – Action: The removal of beetle killed trees would improve safety to landowners and those that use the area for recreation.

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:

Identify how the project would add to or alter these activities.

Alternative A- No Action: No direct, indirect, or cumulative impacts will occur.

Alternative B- Action: No direct, indirect, or cumulative impacts are anticipated to occur.

16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:

Estimate the number of jobs the project would create, move or eliminate. Identify cumulative effects to the employment market.

Alternative A – No Action: No direct, indirect, or cumulative impacts will occur.

Alternative B – Action: No direct, indirect, or cumulative impacts anticipated to occur.

17. LOCAL AND STATE TAX BASE AND TAX REVENUES:

Estimate tax revenue the project would create or eliminate. Identify cumulative effects to taxes and revenue.

Alternative A- No Action: Negligible amounts.

Alternative B- Action: Negligible amounts.

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 cumulative effects of this and other projects on government services

Alternative A- No Action: No direct, indirect, or cumulative impacts will occur.

Alternative B- Action: No direct, indirect, or cumulative impacts are anticipated to occur.

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.

Alternative A- No Action: No direct, indirect, or cumulative impacts will occur.

Alternative B- Action: The Action alternative would reduce fuel loading in areas considered at high risk for wildfire under Tri-County County Community Wildfire Protection Plan.

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 cumulative effects to recreational and wilderness activities.

Alternative A- No Action: No direct, indirect, or cumulative impacts will occur.

Alternative B- Action: No direct, indirect, or cumulative impacts are anticipated to occur.

21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:

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

Alternative A- No Action: No direct, indirect, or cumulative impacts will occur.

Alternative B- Action: No direct, indirect, or cumulative impacts are anticipated occur.

22. SOCIAL STRUCTURES AND MORES:

Identify potential disruption of native or traditional lifestyles or communities.

Alternative A- No Action: No direct, indirect, or cumulative impacts will occur.

Alternative B- Action: No direct, indirect, or cumulative impacts are anticipated to occur.

23. CULTURAL UNIQUENESS AND DIVERSITY:

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

Alternative A- No Action: No direct, indirect, or cumulative impacts will occur.

Alternative B- Action: No direct, indirect, or cumulative impacts are anticipated to occur.

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 cumulative economic and social effects likely to occur as a result of the proposed action.

Alternative A- No Action: No direct, indirect, or cumulative impacts will occur.

Alternative B- Action: No direct, indirect, or cumulative impacts are anticipated to occur.

EA Checklist Prepared By:	Name: Devin Healy	Date: 3/23/2015
	Title: Helena Unit Forester	

V. FINDING

25. ALTERNATIVE SELECTED:

Alternative B-Action

26. SIGNIFICANCE OF POTENTIAL IMPACTS:

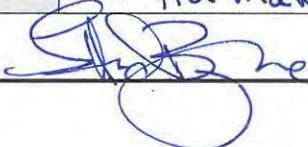
As proposed, no significant impacts to the integrity and function of the SMZ will occur with the implementation of operating restrictions and mitigation measures.

Alternative as mitigated: Approve alternative practice to allow operation of equipment in the SMZ during periods when soil disturbance can be minimized under dry conditions or of frozen ground to four inches and/or snow covered to eight inches. The following mitigation measures are recommended:

- Operation of timber harvesting equipment inside the 50 foot SMZ would be allowed, but no closer than 20 feet from the ordinary high water mark. Equipment operation would be in a straight in and out manner, except on designated and pre-approved skid trails that parallel the stream. The designated skid trails must be kept to the shortest distance possible and will stay more than 20 feet from the ordinary high water mark.
- Trees would be placed outside of the 50 foot buffer. Slash will be required to be placed inside the SMZ as mitigation to soil erosion on disturbed sites.
- If soil disturbance occurs in the SMZ the disturbed areas will be slash-filtered and grass seeded.
- Quaking aspen and all brush species would be retained and protected to the greatest extent possible.
- Douglas-fir and Engelmann spruce would be subject to the retention tree requirements in Rule 5.

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

EIS
 More Detailed EA
 No Further Analysis

EA Checklist Approved By:	Name: <i>J. Andrew Burgoyne</i>	
	Title: <i>HU Manager</i>	
Signature:		Date: <i>4/9/15</i>