# SITE SPECIFIC ALTERNATIVE PRACTICE
# CHECKLIST ENVIRONMENTAL ASSESSMENT

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| **Project Name:** | USFS ~ Park Lake Hazard Tree Removal Project |
| **Proposed Implementation Date:** | March 11, 2009 |
| **Proponent:** | USFS, Helena National Forest |
| **Location:** | Sections 13, T8N, R5W |
| **County:** | Jefferson |
| **Land Owner:** | USFS |
| **HRA #:** | N/A |

## I. TYPE AND PURPOSE OF ACTION

A. **Type of Action: SMZ Alternative Practice:**

Proponent is requesting an SMZ Alternative Practice to Rule 5:(36.11.305), *Retention of Trees in the SMZ/Clearcutting.*

USFS is currently planning a hazard tree removal project in a campground adjacent Park Lake. Mountain pine beetle has drastically impacted lodgepole pine, resulting in tree mortality. Proponent would like to remove trees below the SMZ retention requirements for salvage near camping sites, outbuildings and picnic areas to protect structures and increase safety.

***Indicators – Mountain Pine Beetle:***

Field evaluations verified increased mountain pine beetle activity. Indications of bark beetle activity include:

- Popcorn-shaped masses of resin, called "pitch tubes," on the trunk where beetle tunneling begins. Pitch tubes may be brown, pink or white.
- Boring dust in bark crevices and on the ground immediately adjacent to the tree base.
- Evidence of woodpecker feeding on trunk. Patches of bark are removed and bark flakes lie on the ground or snow below tree.
- Foliage turning yellowish to reddish throughout the entire tree crown. This usually occurs eight to 10 months after a successful Mountain Pine Beetle attack.
- Presence of live MPB (eggs, larvae, pupae and/or adults) as well as galleries under bark. This is the most certain indicator of infestation. A hatchet for removal of bark is needed to check trees correctly.
- Blue-stained sapwood. Check at more than one point around the tree's circumference.[1]

Due to the amount of public use at the Park Lake campground, as well as to reduce possible risk and increase safety, the proponent would like to:

1. Remove MPB diseased lodgepole pine below the 10-tree retention minimum as specified under salvage logging for a class 1 stream/lake. This would only be permissible in the SMZ next to camping sites/out buildings and picnic areas for the purpose of safety. This "safety

[1] D.A. Leatherman, "*Mountain Pine Beetle*", # 5.528, Colorado State University Cooperative Extension. Available at: http://www.ext.colostate.edu/pubs/insect/05528.html

zone" would extent a distance of 1⅔ tree lengths around a structures perimeter, camp site and picnic area.

2. Harvest operation would take place during dry ground conditions to prevent soil rutting.

3. If soil displacement would happen, the area in question would be grass seeded immediately following the harvest in the spring to reestablish vegetation.

4. Equipment operation would be from established roads within the SMZ and would not require an Alternative Practice.

B. **Purpose of Action: Timber Harvest**

Proponent has put forth a salvage timber harvest to mitigate impacts to property as a result of damage caused by the MPB. This action should also increase forest health and vigor as well as provide a source of income to the landowner.

## II. PROJECT DEVELOPMENT

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

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

No other agencies, groups or individuals have been contacted by the DNRC as part of this proposed Alternative Practice. USFS would be responsible for contacting appropriate agencies to obtain other necessary permits, and to conduct proper public scoping and environmental analysis.

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

Other required permits are the responsibility of the USFS.

### 3. ALTERNATIVES CONSIDERED:

**3.1 Alternative "A": Not approve Alternative Practice (No Action)**

Proposed SMZ Alternative Practice would not be approved. Current MPB conditions would most likely increase, resulting in significant damage to the remaining non-infested lodgepole pine. The proposed forest management and harvesting actions would be abandoned.

**3.2 Alternative "B": Alternative as Proposed**

Allow SMZ Alternative Practices as proposed with additional mitigation measures.

**Tree Retention:** Lodgepole pine found throughout the proposed harvest area has been severely damaged by MPB and therefore meets the definition of "salvage", as stated in Rule1(36.11.312(23)), *Definitions*, which says:

"Salvage" means the harvesting of trees that have been killed or damaged, or are in imminent danger of being killed or damaged by injurious agents other than competition between trees.

Salvage logging, as a per approved alternative may take place provided trees meet the definition of salvage under Rule 5: (36.11.305), subsection (5) which states:

Trees retained pursuant to this rule may be salvaged only under the following conditions:

(a) Trees to be harvested meet the definition of salvage found at ARM 36.11.312(23); and
(b) The minimum tree retention requirements of section (2) are met by standing live trees, or by dead or fallen trees where sufficient standing live trees are not available.

Under subsection (2), Rule 5:(36.11.305), In order to provide large woody debris, stream shading, water filtering effects, and to protect stream channels and banks, merchantable and sub-merchantable trees must be retained in the first 50 feet of the SMZ beyond the ordinary high water mark and in the entire SMZ where the SMZ is extended for wetlands under ARM 36.11.302(2)(a) on each side of streams, and along lakes and other bodies of water as follows:

(a) On each side of class 1 stream segments and lakes retain 50% of the trees greater than or equal to 8 inches dbh, or 10 trees greater than or equal to 8 inches dbh in each 100 lineal feet of the SMZ, whichever is greater.

(i) If less than 10 trees greater than or equal to 8 inches dbh are present in any 100 lineal foot segment of the SMZ, then a ***minimum of 10 trees*** of the largest diameter available must be retained in that segment;

(ii) Trees retained must be representative of the species and size of trees in the pre-harvest stand; and
(iii) Shrubs and submerchantable trees must be protected and retained in the entire SMZ to the fullest extent possible when conducting forest practices in the SMZ.

Due to safety concerns, ***an Alternative Practice*** to remove MPB diseased lodgepole pine below the 10-tree retention minimum would be allowed. This exclusion would only be permissible in the SMZ next to camping sites, out buildings, and picnic areas. This "safety zone" would extent a distance of 1⅔ tree-lengths around the above mention locations.

## 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.*

Harvest operations would be done during dry ground conditions to prevent rutting. Degradation to the soil should be minimal due to the relatively small amount of forest products being harvested in the SMZ. Mitigation measures such as grass seeding exposed soil areas should reduce the potential of sediment runoff into Park Lake.

## 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.*

**Is it possible that implementing this Alternative Practice would impact the integrity of the SMZ and these specific functions?**

1. Ability to act as an effective sediment filter.
2. Ability to provide shade to regulate stream temperature.
3. Protection of stream channel and banks.
4. Ability to provide large woody debris for eventual recruitment into the stream to maintain riffles, pools and other elements of channel stability.
5. Promotes floodplain stability.

The proposed project would be implemented during dry ground conditions and should not adversely impact the six functions of a SMZ, as identified in the SMZ law (77-5-301[1] MCA).

1. Harvest operation would take place during dry ground conditions to prevent soil rutting. Because of this and the small amount of wood being harvested, minimal disturbance to the soil is expected. If soil displacement would happen, the area in question would be grass seeded immediately following the harvest in the spring to reestablish vegetation.

2. Tree retention would drop below the salvage minimum in the SMZ only around camping sites, outbuildings, and picnic areas.

3. Equipment operation would be on established roads in the SMZ.

4. Ample tree volume shall be maintained in the SMZ as a whole around Park Lake to provide future recruitment into the lake to provide structure by maintaining the minimum tree retention requirement for salvage.

5. Grass seeding disturbed soil locations should provide ample floodplain stability.

## 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.*

None.

## 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.*

Implementation of these alternatives practices with proposed mitigation measures should not dramatically impact any vegetative communities within the SMZ.

## 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.*

Would implementing this Alternative Practice impact the ability of the SMZ to support diverse and productive aquatic and terrestrial habitats?

Mountain pine beetle is prevalent in mature lodgepole pine found throughout this landscape. The declining forested stand should give way to a flush of new pine regeneration after harvest, changing terrestrial habitats. Implementation of this alternative practice in and of itself should not dramatically impact aquatic and terrestrial habitats.

## 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.*

None.

## 10. HISTORICAL AND ARCHAEOLOGICAL SITES:

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

None.

## 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.*

None.

## 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.*

None.

## 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.*

None.

## 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.*

None.

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

None.

**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.*

None.

**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.*

None.

**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.*

None.

**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.*

None.

**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.*

None.

**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.*

None.

**22. SOCIAL STRUCTURES AND MORES:**
*Identify potential disruption of native or traditional lifestyles or communities.*

None.

**23. CULTURAL UNIQUENESS AND DIVERSITY:**
*How would the action affect any unique quality of the area?*

None.

**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.*

None.

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| **EA Checklist Prepared By:** | **Name:** | Shawn P. Morgan | **Date:** | 02/19/09 |
| | **Title:** | Helena Unit Forester | | |

## V. FINDING

**25. ALTERNATIVE SELECTED:**

ALTERNATIVE AS MITIGATED: Approve alternative practice to allow equipment operation in the SMZ.
The following mitigation measures shall be implemented:

1. Remove MPB diseased lodgepole pine below the 10-tree retention minimum as specified under salvage logging for a class 1 stream/lake. This would only be permissible in the SMZ next to camping sites/out buildings and picnic areas for the purpose of safety. This "safety zone" would extent a distance of 1⅔ tree lengths around a structures perimeter, camping site, and picnic area.

2. Harvest operation would take place during dry ground conditions to prevent soil rutting.

3. If soil displacement would happen, the area in question would be grass seeded immediately following the harvest in the spring to reestablish vegetation.

## 26. SIGNIFICANCE OF POTENTIAL IMPACTS:

As proposed, with mitigations, I do not anticipate any significant direct, indirect or cumulative effects from the implementation of the selected alternative.

| 27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS: | | | | | | |
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| | | EIS | | More Detailed EA | X | No Further Analysis |

| EA Checklist Approved By: | Name: | D.J. Bakken | | |
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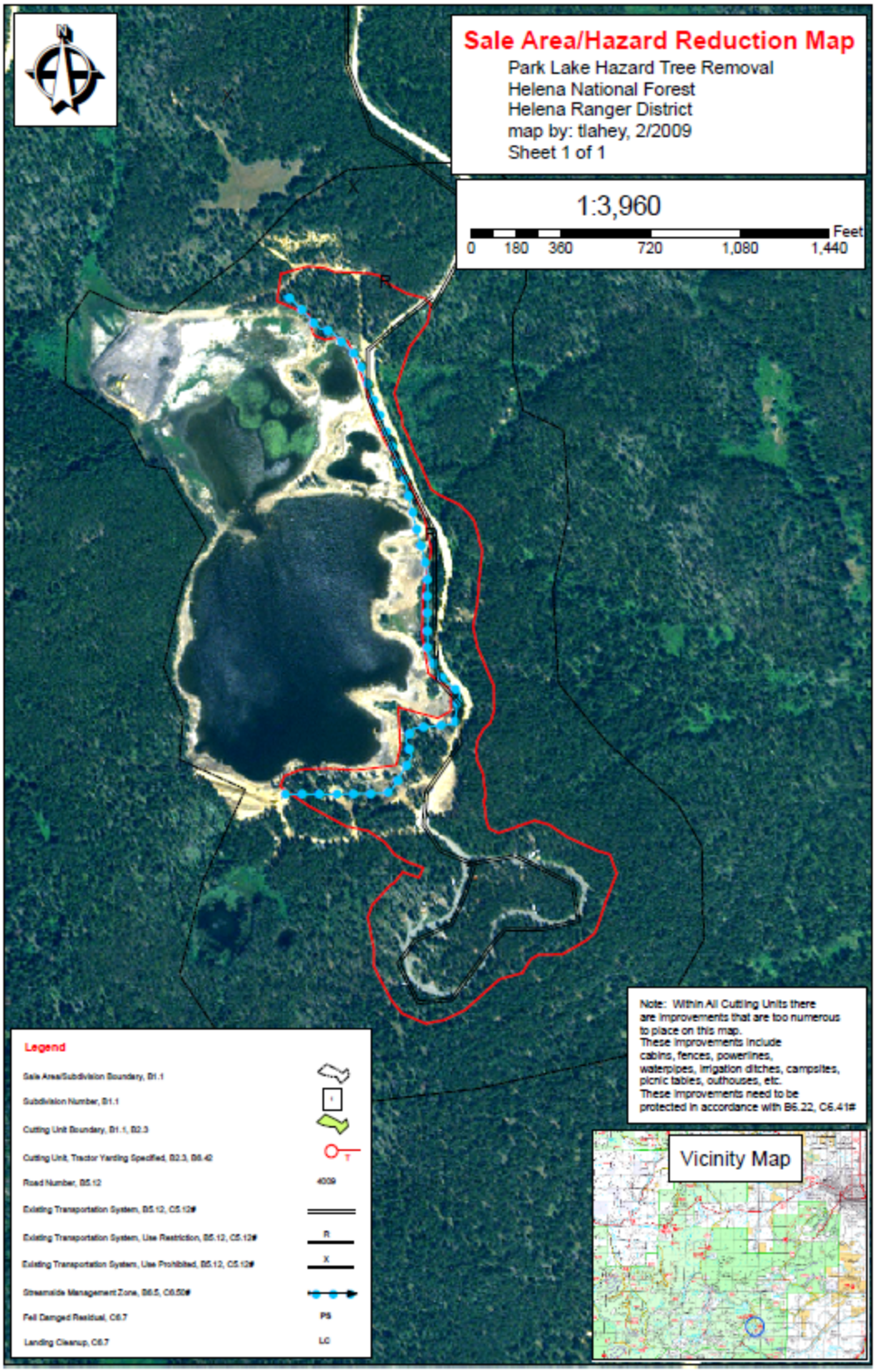
| | Title: | DNRC, Helena Unit Manager | | |
| Signature: | /s/ Darrel J. Bakken | | Date: | 3/27/2009 |

**ATTACHMENTS**

SMZ Alternative Practice Map


Sale Area/Hazard Reduction Map
Park Lake Hazard Tree Removal
Helena National Forest
Helena Ranger District
map by: tlahey, 2/2009
Sheet 1 of 1
1:3,960
Feet
0 180 360 720 1,080 1,440
Note: Within All Cutting Units there are improvements that are too numerous to place on this map.
These improvements include cabins, fences, powerlines, waterpipes, irrigation ditches, campsites, picnic tables, outhouses, etc.
These improvements need to be protected in accordance with B6.22, C6.41#
Vicinity Map
Legend
Sale Area/Subdivision Boundary, B1.1
Subdivision Number, B1.1
Cutting Unit Boundary, B1.1, B2.3
Cutting Unit, Tractor Yarding Specified, B2.3, B6.42
Road Number, B5.12
4009
Existing Transportation System, B5.12, C5.12#
Existing Transportation System, Use Restriction, B5.12, C5.12#
R
Existing Transportation System, Use Prohibited, B5.12, C5.12#
X
Streamside Management Zone, B6.5, C6.52#
Fell Damged Residual, C6.7
PS
Landing Cleanup, C6.7
LC