Greetings,

I am requesting input on the proposed **Trail Creek Fire Salvage Project**. The Trail Creek Fire occurred during the summer and fall of 2015 and burned approximately 21,500 acres. The project is located approximately two miles northeast of the Spotted Bear Ranger Station. The proposed project would occur on National Forest System (NFS) lands within the Spotted Bear Ranger District, Flathead National Forest.

We invite your comments about our proposed action for this new project. The enclosed document describes the need for management actions in the area and the proposed action in greater detail. The Flathead National Forest internet site at [http://www.fs.usda.gov/goto/flathead/projects](http://www.fs.usda.gov/goto/flathead/projects) may also be accessed for this project information.

We will use your comments on this proposed action to determine issues, which could then help design potential alternatives to the proposed action. Written, hand-delivered, and oral comments should be delivered to Project Leader Matt Shaffer at 650 Wolfpack Way, Kalispell, MT 59901; by fax (406)758-5367; or by phone at (406)758-3508. To submit comments electronically, please send to: comments-northern-flathead-spotted-bear@fs.fed.us. Electronic comments must be submitted in rich text format (.rtf), Word (.doc), Adobe Acrobat (.pdf), or Word Perfect format. The subject line must contain the name of the project for which you are submitting comments. You should normally receive an automated electronic acknowledgement from us as confirmation of receipt. If you do not receive an automated acknowledgement of the receipt of comments, it is your responsibility to ensure timely receipt by other means.

Comments must be received by February 11th, 2016.

This comment period provides those interested in or affected by this proposal an opportunity to make their concerns known prior to a decision being made by the Responsible Official. Comments received in response to this solicitation, including names, addresses, email addresses, and phone numbers of those who comment, will be considered part of the public record, and will be available for public inspection.

The Responsible Official plans to request an emergency situation determination for the proposed project as provided for in 36 CFR 218.21 for relief from hazards threatening human health and safety and to avoid a loss of commodity value sufficient to jeopardize the agency's ability to accomplish project objectives directly related to resource protection or restoration. If an emergency situation determination is approved, the proposed action shall not be subject to the predecisional objection process and implementation may proceed immediately after interested
and affected parties are notified of the decision. If the Responsible Official’s request for an emergency situation determination is denied, only those who provide timely and substantive comments will be eligible to object the decision pursuant to the 36 CFR 218 Subparts A and B.

Because of the enormous amount of research regarding forestry practices and methods, if you cite literature in your comments please provide us with a complete bibliography or a copy of the referenced materials if they are not commonly available.

A public open house to provide further information about this project will occur on Tuesday, February 2 from 4:00 to 7:00 PM at the Hungry Horse Ranger Station (see address on letterhead). During the open house, specialists will be available to answer questions you may have about the project. Please call (406)387-3800 during business hours to obtain directions if necessary.

I appreciate your interest in the Trail Creek Fire Salvage Project, and I thank you for your help with developing our project. To obtain additional information about this project, please contact me at (406)387-3851 or Matt Shaffer at (406)758-3508.

Sincerely,

DEBBIE MUCKLOW
Spotted Bear District Ranger

Enclosure
TRAIL CREEK FIRE SALVAGE PROJECT

INTRODUCTION
On August 12th, 2015 the Trail Creek Fire (Figure 1) started on the Spotted Bear Ranger District of the Flathead National Forest as a result of a lightning strike. When the fire was contained on November 3rd, approximately 21,456 acres were affected. The fire area is located approximately two miles northeast of the Spotted Bear Ranger Station on the north side of the Spotted Bear River. Major drainages affected include Whitcomb, Bent, Trail, and South Creeks. The fire burned approximately 5682 acres of the Bear-Marshall-Scapegoat-Swan Inventoried Roadless Area and 7021 acres of the Great Bear Wilderness. The project area for this project is the area burned by the Trail Creek Fire excluding the Great Bear Wilderness.

Figure 1. Aerial view of Trail Creek Fire (Mid-August 2015)

BACKGROUND
In the fall of 2015, a team of forest and district resource specialists looked at the Trail Creek Fire area to determine whether there were emergency actions needed to protect watersheds from the effects of the fire. This team identified the need to clean four culverts, spray 88 acres of noxious weeds, repair damaged trail conditions on 20 miles of trail (five trails), and install four hazard warning signs. These emergency actions have already begun being implemented and will continue being implemented.

POST-FIRE CONDITIONS
In addition to determining emergency rehabilitation needs, initial review of other post-fire conditions indicated the following:

Soil burn severity: Soil burn severity assessments are performed to determine if fire induced changes in soil hydrologic function have potential to threaten life, health, property, or critical resources from erosion, debris flows, or flooding. The Flathead National Forest Burned Area Emergency Response (BAER) core team field validated and finalized the Burned Area Reflectance
Class imagery (BARC) for the Trail Creek Fire using satellite imagery collected September 1, 2015. The soil burn severity at the time of BARC acquisition was mapped as follows: 12 percent unburned, 30 percent low severity, 27 percent moderate severity, and 31 percent high severity.

**Tree mortality:** Tree mortality as used in this context, refers to the effect of the fire on the tree component of the ecosystem. Three broad categories were used to classify the effects of the fire on trees.

- **Low Tree Mortality:** Most of the trees have green crowns, with less than 30 percent of the trees being brown (totally scorched but retain most of the small branches and needles) or black (total crown consumption). Sometimes these areas are mosaics of very small patches of burned trees in the midst of patches of unburned forest. Other times these areas have been mostly underburned, with ground vegetation scorched and blackened but tree crowns green and intact. Mortality of trees may vary widely in this category, depending primarily upon tree species. Thin barked species such as spruce and subalpine fir are usually killed with only the lightest of ground fires, whereas the fire-tolerant larch, Douglas-fir, and ponderosa pine usually survive such fires.

- **Moderate Tree Mortality:** This is a broad category of conditions, where 30 to 80 percent of the trees are brown or black. Most of these trees have been directly killed by the fire, though mortality may vary somewhat depending upon tree size and species (fire tolerance).

- **High Tree Mortality:** Greater than 80 percent of the trees are brown or black, and thus have been immediately killed by the fire.

Both moderate and high tree mortality stands are considered regenerated (stand replacing). Out of the total 21,456 acres within the fire area, an estimated 1788 acres are unburned or have very low tree mortality; 6638 acres have low tree mortality, 6077 acres have moderate tree mortality, and 6953 acres have high mortality.

Pre-fire forest stand conditions including old growth: Prior to the fire, more than three quarters of the burned area (approximately 18,895 acres), consisted of well-stocked mid-seral stands mostly dominated by Douglas-fir at mid to lower elevations and subalpine fir/spruce in riparian areas and higher elevations. Larch, ponderosa pine and lodgepole pine were also present within some stands. Approximately 1937 acres of old growth and 2471 acres of late seral forests had stand replacement fire. During the course of this project analysis, the Forest Service will conduct additional field reviews and provide a more thorough evaluation of the effects of the fire and proposed salvage actions on the condition of the forests.

**Bark beetles:** There is a high probability based on the fire severity, species composition, and tree sizes that bark beetles would attack fire-injured trees in the Trail Creek Fire area over the next few years. Beetles are attracted to weakened or killed trees, and bore into the tree to lay eggs. When the eggs hatch, the larvae feed in the cambium layer, which usually girdles and kills the tree. Based on the observed level of fire-injury to trees, it is likely that additional tree mortality above what was originally estimated in the burn severity map would occur as a direct result of fire injury and/or subsequent beetle attacks. Douglas-fir are the most susceptible to beetle attack, and larger trees are more susceptible than smaller trees. Currently about 30 percent of the forested lands within the fire area were estimated to be Douglas-fir dominant and average greater than 10 inches Diameter at Breast Height (DBH) (i.e. the diameter at 4.5 feet above ground level) prior to the fire. An additional 25 percent of the forested lands within the fire area were estimated to average greater than 10 inches DBH and most of these stands had a Douglas-fir component. These stands in particular are the most vulnerable to bark beetle attack. Recent drier and warmer weather patterns in 2015, and
at this time predicted for 2016, are expected to positively influence bark beetle activity and negatively influence tree health and vigor of the live trees in the fire.

The abundance of beetle-susceptible trees within the fire area could lead to a rapid increase in beetle populations in the local area, greatly increasing the risk of attack to adjacent live trees outside the fire. Bark beetles are capable of flying several miles to find suitable host trees, though the closer the tree the more likely it is to be attacked. There are thousands of acres of forest within a few miles of the fire area that contain potential host trees, namely the larger diameter Douglas-fir trees. Large diameter trees are of particularly high value in many parts of this landscape, providing important wildlife habitat and aesthetic values.

Currently, Douglas-fir beetles are present but overall activity is low in and surrounding the fire area. Bark beetle activity in the fire area would be monitored over the next few years and appropriate suppression/management activities would be evaluated and implemented, if determined to be feasible and effective. This could include use of pheromones to influence beetle activity and temporarily reduce beetle impacts (see description of pheromone treatments later in this document). Removal of some of the moderately to severely fire-damaged Douglas-fir trees also has the potential to reduce impacts of beetles. The details and potential effects of these actions would be addressed in the project analysis.

**Aquatic resources:** The Trail Creek Fire was within the Flathead Headwaters Total Maximum Daily Load planning area as defined by Montana Department of Environmental Quality (DEQ). None of the affected waters are listed as impaired by Montana DEQ indicating water quality standards in these waters are currently being met. However, annual water yield as well as the frequency and magnitude of peak flow events are typically elevated in the post wildfire environment. As a result, some level of stream channel adjustment and water quality degradation is anticipated to occur. These effects would be most pronounced the first year after the fire but could persist for several years before stabilizing. Primary water quality contaminants generated from burned landscapes include sediment as well as substantial quantities of highly available nutrients (primarily phosphorus and nitrogen) mobilized as a result of wildfire. These effects combined with loss of near stream canopy cover may also lead to increased water temperatures. While effects may appear extreme relative to unburned conditions, the response is expected to be within the natural range of variability when considered in context with area wildfire history.

Approximately 15 percent of the entire Spotted Bear River watershed burned in 2015 as a result of several wildfires including the Trail Creek Fire and Bear Creek Complex. The Spotted Bear River Watershed is made up of seven distinct sub-watersheds (HUC12s) and most of the 2015 wildfire activity was concentrated in two HUC12s as displayed in Table 1.

Burned areas outside of the Twin Creek and Lower Spotted Bear River HUC12s are located entirely within designated wilderness areas (Great Bear and Bob Marshall), would not be subject to any salvage operations and would not be discussed in further detail in this document. Principal drainages affected by 2015 wildfire within the project boundary and situated within Lower Spotted Bear River HUC12 include Trail Creek, Bent Creek, Big Bill Creek and Whitcomb Creek which are all tributaries to the Spotted Bear River flowing into the South Fork Flathead River above Hungry Horse Reservoir. Principal drainages affected by 2015 wildfire within the project boundary and situated within the Twin Creek HUC12 include Twin Creek and South Creek. South Creek is tributary to Twin Creek which is a tributary to the South Fork Flathead River above Hungry Horse Reservoir downstream from the Spotted Bear River.
The Trail Creek fire burned on the north half of the Spotted Bear River but did not burn near the river itself. South Creek, Bent Creek and Whitcomb Creek experienced higher soil burn severity based on BARC imagery relative to other watersheds within the fire perimeter. As a result of higher soil burn severity these areas are expected to experience greater watershed impacts. Therefore, westslope cutthroat trout in these streams are likely to decline in numbers for several years. A culvert on Forest Service Road (FSR) 2851 may turn into a fish barrier due to increased stream power and this could further impair the westslope cutthroat trout population recovery in this portion of the watershed.

Table 1. Spotted Bear River Watershed 2015 Wildfire Statistics.

<table>
<thead>
<tr>
<th>HUC12 Name</th>
<th>HUC Area (acres)</th>
<th>*Total Area Burned (acres 2015)</th>
<th>% of HUC Burned in 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Twin Creek</td>
<td>30,247</td>
<td>4,675</td>
<td>15</td>
</tr>
<tr>
<td>Lower Spotted Bear River</td>
<td>39,569</td>
<td>12,948</td>
<td>33</td>
</tr>
<tr>
<td>Dean Creek</td>
<td>11,970</td>
<td>425</td>
<td>4</td>
</tr>
<tr>
<td>Silvertip Creek</td>
<td>14,093</td>
<td>362</td>
<td>3</td>
</tr>
<tr>
<td>Middle Spotted Bear River</td>
<td>19,462</td>
<td>896</td>
<td>5</td>
</tr>
<tr>
<td>Wall Creek</td>
<td>11,353</td>
<td>489</td>
<td>4</td>
</tr>
<tr>
<td>Spotted Bear River Headwaters</td>
<td>23,105</td>
<td>671</td>
<td>3</td>
</tr>
</tbody>
</table>

*Estimates were calculated using spatial data from a 2015 fire polygon and not BARC imagery.

Bull trout spawn in the Spotted Bear River, primarily upstream of the area burned by the Trail Creek Fire, and the river is designated bull trout critical habitat. Bull trout are less likely to be affected than westslope cutthroat trout since the fire did not burn near the Spotted Bear River but still may experience some temporary reduced survival. There are no bull trout in Twin Creek.

Noxious weeds: The most abundant and widely distributed invasive plant species in the fire area are Canada thistle, spotted knapweed, oxeye daisy, sulphur cinquefoil, and hawkweed. Several other species are present in low abundance. Along the roads accessing the project area are infestations of these species, which could potentially move into the fire perimeter. The trails in the project area are currently weed free or have few infestations. Additional monitoring in spring of 2016 would better determine if weed spraying is necessary.

Canada lynx and critical lynx habitat: The majority of the Trail Creek Fire area is designated lynx critical habitat. The area is also mostly mapped lynx habitat, primarily in the Bent Whitcomb Lynx Analysis Area (LAU), but also extending into the Dolly Varden Creek, Shadow Dean, and Twin Creek LAUs. All proposed timber salvage units that had moderate or low-severity fire were visited in fall 2015 and areas that provide post-fire snowshoe hare habitat were removed from this proposal. Preliminary analysis suggests that the majority of the snowshoe hare habitat in the fire area burned with a high to moderate severity and does not currently provide snowshoe hare habitat. Salvage harvest of these areas is not expected to affect hare habitat.
Grizzly bear: The Trail Creek Fire burned in the Spotted Bear Mountain, Big Bill Shelf, Flotilla Capitol, Twin Creek, Pentagon, Trilobite Peak, and Lower Twin Grizzly Bear Management Subunits. Areas that burned with moderate and high severity no longer provide hiding cover for grizzly bears, although grizzlies are known to feed in burn areas once spring grasses, forbs and berry-producing shrubs grow. Scattered unburned areas and areas with low-severity fire are still high-quality grizzly cover and/or foods. All seven of the subunits listed above are consistent with Forest Plan Amendment 19 objectives related to open and total motorized access densities and security core. Amendment 19 is a comprehensive programmatic strategy that addresses grizzly bear habitat security in the Flathead National Forest’s portion of the Northern Continental Divide Ecosystem.

Black-backed woodpecker: Many of the burned areas created high quality black-backed woodpecker nesting and feeding habitat. An abundance of black-backed woodpeckers are expected to nest and feed in the fire area for approximately five years following a fire.

Wolverine: Wolverines are closely associated with areas of persistent spring snow. Almost a third of the fire area, both in and outside of Wilderness, provides this in the headwaters of the drainages.

Fisher: Areas of mature and old forest, especially those within 100 meters of streams, are considered to be key fisher habitat. Very little of this habitat remains in an un-burned condition throughout the fire area.

Big game winter range: Big game winter range occurs throughout the fire area. Most of the trees in the thermal cover areas that existed prior to the fire in this winter range are dead and no longer intercept snow or hold in heat. Winter range areas would benefit big game habitat when spring grass/forbs and shrubs grow.

Roads: There are 16.7 miles of forest roads within the fire area; 10.4 miles are closed yearlong and 6.3 miles are seasonally open roads. Several of the roads within the fire area have had maintenance and drainage improvement work performed under ongoing or previous timber sales. Additionally, during fire suppression activities, there were 11.5 miles of roads where trees that posed immediate hazards were cut and removed to provide a safe working environment for fire fighters. These activities did not mitigate concerns related to the trees that would become hazards in the upcoming field seasons as they become weakened as a result of their fire injuries.

**Management Activities Likely Occurring this Spring/Summer**

**PHEROMONES**

Beetle suppression techniques will be utilized as part of the overall strategy to reduce post-fire tree mortality in and adjacent to the fire area. These will include the use of pheromone treatments which either attract or repel beetles from an area or specific trees. Attraction pheromones may be applied to draw in and capture bark beetles emerging from trees, before they have a chance to spread to remaining live trees within or outside the fire area. Repellent pheromones may be used to keep beetles from infesting certain trees or areas. Some of these actions may occur as early as the spring of 2016. Monitoring of bark beetle activity would continue to be conducted and is an essential component of any plan to reduce bark beetle-caused tree mortality in the Trail Creek Fire area.
BAER Work
In the spring and summer of 2016 the BAER work that was not completed in 2015 will be completed. This includes 88 acres of weed spraying and 20 miles of trail stabilization and/or reconstruction.

Purpose and Need for Action
The purposes of this project are to:

- Recover merchantable wood fiber affected by the Trail Creek Fire in a timely manner to provide forest products to the local timber industry, contributing to short-term timber supply and long-term sustainability of timber on National Forest System lands;
- Reforest desired tree and shrub species in burned stands to accelerate the development of mule deer and elk winter habitat, including thermal cover, consistent with Forest Plan direction for Management Areas 13 and 15E;
- Prevent the creation of fish barriers resulting from increased stream flows due to the Trail Creek Fire and;
- Improve the safety of the visiting public, Forest Service employees, and contractors by reducing hazardous trees in developed trailheads, along roadways, and in other areas accessed by the visiting public, Forest Service employees, and contractors.

The needs for this project are driven by management direction or more specifically goals/desired future conditions and resource objectives as defined by the Flathead National Forest Land and Resource Management Plan (Forest Plan). The applicable management direction from the Forest Plan includes the following resource goals and objectives: “provide a predictable and sustainable supply of timber products that is responsive to local industry and economies, consistent with other Forest management goals, objectives and standards” (p. II-4, Forest Plan); “provide sufficient habitat to contribute to meeting objectives of Montana Department of Fish, Wildlife and Parks management plans” (p. II-8, Forest Plan) and “maintain high quality water, which meets or exceeds State and Federal water quality standards to protect migratory and resident fisheries, water-based recreation opportunities, and public water supplies” (p. II-4, Forest Plan).

Merchantable timber is located within the fire area and within management areas in the Forest Plan that are considered suitable for timber management. However, due to expected decay rates of fire-affected trees, timely harvest is essential to ensure their merchantability. Trees killed by the fire would lose a substantial portion of their economic value as sawlogs each year following the fires. As a result, sawlog volume would decrease steadily over the next three years, with much of the small sawlog volume losing its value in one to two years following the fire. Larger trees and stands that experienced less intense or severe fire would likely remain merchantable longer, but they would also lose economic value over time as defects develop, resulting in substantial loss of value. As sawlogs lose their value, the viability of a timber sale decreases, and without a viable timber sale the other project objectives may be jeopardized as funds from a timber may be used to fund proposed projects.

There is a need to recover the commodity value of merchantable wood fiber in a timely manner so that at least a portion of the economic value gained from the selling of the fire affected trees could potentially contribute to the restoration of big game habitat affected by the fire and the prevention of the creation of a fish barrier that is expected to develop as a result of the fire. By reforesting desired tree and shrub species, stands and shrubs can more quickly revegetate and aid in providing sufficient big game habitat and forage. By removing a culvert on South Creek, the potential is
removed for the creation of a fish barrier following increased stream flows in South Creek due to the Trail Creek Fire.

There is a need to allow the construction of temporary roads, implementation of Best Management Practices (BMPs), and maintenance and rehabilitation of roads in grizzly bear core habitat impacts to reduce impacts to aquatic resources and more effectively restore long-term soil productivity. Currently, road work in grizzly bear core habitat is limited to the denning season (December 1 to March 31); however, this is when soils are either frozen, snow covered, or too wet for successful implementation. Road work performed in these conditions reduces the effectiveness of BMPs and increases the potential for negative affects to soil and aquatic resources. Performing road work when soils are dry and unfrozen would result in fewer impacts to aquatic resources and more effective restoration of long-term soil productivity.

LOCATION OF THE PROJECT
The fire area/project area is approximately two miles northeast of the Spotted Bear Ranger Station (see Figure 2).
**PROPOSED ACTION**

The proposed project would occur on National Forest System (NFS) lands within the Spotted Bear Ranger District, Flathead National Forest. The proposed project includes (see Table 2): salvage harvest and temporary road construction; new system road construction on existing road templates which would be placed in storage after harvest operations; temporary access changes to an existing road; fish habitat and watershed improvement actions; reforestation and wildlife habitat improvement actions; hazard tree removal; and a project specific Forest Plan Amendment. Project design criteria included in the proposed action would reduce or prevent impacts to resources.

**SALVAGE HARVEST AND TEMPORARY ROAD CONSTRUCTION**

The Forest Service is proposing salvage harvest of burned trees on up to 1351 acres; approximately six percent of the area burned by the Trail Creek Fire (see Figure 4). Salvage would remove dead trees and trees damaged by the fire to the degree that they have a high probability of dying within three years. The number of acres proposed at this time is inclusive, portraying all the possible areas that would be assessed for salvage opportunities. Further analysis and field verification may result in a reduction of proposed salvage acres, influenced by such factors as:

- Site-specific salvage prescriptions (e.g. snag retention),
- Logging system changes,
- Economic viability, and/or
- Other resource concerns.

Trees would be whole tree yarded and slash would be burned at the landings.

The proposed actions are within the Spotted Bear Mountain and Big Bill grizzly bear subunits and are expected to also affect the Lower Twin and Twin Creek subunits due to the proximity of proposed salvage units to these subunits.

Logging methods to remove merchantable trees would include cable (skyline) systems and ground-based mechanical systems (e.g. rubber tired skidders). The approximate number of acres and logging systems proposed is 1252 acres of ground based (tractor) and 99 acres of skyline system. Accessing the proposed units would require 5.3 miles of temporary road construction with 4.5 miles falling on existing road templates. Temporary roads would be reclaimed after logging activities. Temporary roads that are proposed on existing templates would include reclamation of the entire existing template, even if the existing template extends beyond the unit boundary. Best management practices would be maintained to minimize soil erosion and protect water quality on roads used during salvage activities.

**NEW SYSTEM ROADS TO BE STORED**

The Forest Service is proposing to construct approximately seven miles of new system roads on existing road templates to access proposed harvest units and then place these seven miles, plus approximately an additional mile of road, into storage and classify the roads as intermittent stored service (ISS) roads following salvage harvest operations. These proposals would facilitate harvest activities and long-term resource management. Since construction of the approximately seven miles of new system roads is all proposed on existing road templates, construction activities would only involve brushing, BMP work, surface reconditioning and ditch cleaning. There would not be any excavation of new road prisms. The additional mile of road that would be classified as ISS following harvest operations, but not receive any construction work, is approximately a mile of road that extends beyond the proposed salvage unit.
The historic road template that new system roads would be constructed on, and that would be classified as ISS roads, is defined as a constructed road surface that was once used for a transportation need, but is not currently a part of the National Forest Road System. It has an overall template existing that has not been recontoured and is in a state that is largely impassible to full-sized motor vehicles due to waterbars, culvert removals and/or closure by vegetation, earth berm, or other natural closure features, such as a slump or washout. Specified road would be designed only to a level to allow for log haul and would meet BMPs. Design would favor rolling dips over culvert installation.

Upon completion of the project, the first portion of the road (200 to 600 feet) would be recontoured to the original hillslope. In level topography where recontouring is not feasible rock barriers or berms and placement of natural debris would be used to make the road junction unattractive as travel way and preclude motorized or non-motorized use on the remainder of the first portion of road (first 200 to 600 feet). Beyond the first portion of the road (200 to 600 feet), the roadway would be treated to discourage use including sporadic placement of natural debris where available and seeding or planting to encourage re-vegetation.

**TEMPORARY ACCESS CHANGE**

The 32.8 mile portion of the Eastside Reservoir Road (FSR 38) from its intersection with the Abbott Bay Road (FSR 5301) to the boundary between the Hungry Horse and Spotted Bear Ranger Districts would be closed to public wheeled motorized use when active hauling occurs (after December 1 and before March 31 each year). While this section of road is currently open year round, it is not plowed and thus usually impassable to wheeled motorized vehicles from December to March. Additionally, this same segment would be closed to public over-snow motorized use Monday through Friday while hauling is occurring. The segment of FSR 38, between the Spotted Bear Ranger District boundary and FSR 895, would be restricted to all public motorized use from December 1 to May 14, as it currently exists.

**FISH HABITAT AND WATERSHED IMPROVEMENT**

The existing culvert located at the end of FSR 2851 at South Creek would be removed following harvest and subsequent reforestation efforts to accommodate aquatic organism passage under the post fire hydrologic regime. This work would be conducted between May 15 and August 31 and follow typical engineering design practices for stream channel restoration and culvert removal. Weed free seed and straw mulch would be applied to exposed soils. Rocks placed in the stream for grade control would not impede fish passage. A fish biologist, hydrologist and/or an engineer would inspect the location one year after completion to evaluate if any further soil or stream bank stabilization is needed. Additionally, portions of the road segment near the stream crossing which are vulnerable to stream action would be armored through site specific engineering design practices to preserve water quality and protect the road from damage.

**REFORESTATION AND WILDLIFE HABITAT IMPROVEMENT**

Planting native tree seedlings would occur on up to 3,000 acres within the area burned by the Trail Creek Fire, including some salvage units, to return the site to forested conditions in a timely manner and promote desired species diversity and enhance winter thermal cover values, as appropriate, in the future forest. Desired species to plant would be primarily western larch and ponderosa pine.

Additionally up to 500 acres of additional trees and shrubs would be planted within the area burned by the Trail Creek Fire to improve mule deer and elk wintering and forage habitat.
HAZARD TREE REMOVAL
Hazard trees would be removed along system roads open seasonally, in and near developed recreation areas, and along system trails within the project area. Hazard tree removal would occur on up to eight miles of National Forest System Roads outside proposed salvage units up to one tree length from the road. In developed sites, hazard trees within one tree length of campsites, restrooms, developed parking areas or other developed features would be removed. Along up to 26.5 miles of system trails, hazard trees that pose an imminent threat to forest visitors, employees, and contractors would be felled. To the extent practical, economic value would be recovered from the removal of hazard trees near roads, trails, and developed sites. Where economic recovery is not feasible, felled trees would be left on site and as intact as possible.

PROJECT SPECIFIC FOREST PLAN AMENDMENT
The Forest Plan’s Appendix TT would be amended only for this project by changing the definitions of Restricted Roads, Reclaimed Roads, and Security Core Area Restricted Roads in Security Core Areas. This amendment would allow 30 consecutive days of motorized access per year in Grizzly Bear core habitat outside of the denning season from July 1 to November 30 in 2016, 2017, and 2018 for temporary and specified road construction, BMPs, and road rehabilitation. This amendment would amend the restricted road definition that was previously amended by Forest Plan Amendment 19 and amend the reclaimed roads definition that was previously amended by Forest Plan 24. Additionally, this amendment would amend the security core area restricted roads in security core area language that is from the original Forest Plan. This amendment is amending original language and language from two previous amendments because previous amendments only amended certain language in Appendix TT.

The specific definitions that would be amended include:

- Restricted Road Definition – “Within security core areas, motorized administrative use may not occur on restricted roads during the non-denning period” would be amended to “Within security core areas, motorized administrative use may not occur on restricted roads during the non-denning period except for 30 consecutive days of motorized access per year in Grizzly Bear core habitat outside of the denning season from July 1 to November 30 in 2016, 2017, and 2018 for temporary and specified road construction, BMPs and road rehabilitation in the area of the South Creek Trail Head and the Bent Creek area.”

- Reclaimed Road Definition – “A reclaimed road has been treated in such a manner so as to no longer function as a road or trail during the non-denning season and has a legal closure order until reclamation treatment is effective. An exception is snowmobile use until April 15 in Canyon Creek, April 30 in Sixmile, May 15 in Skyland Challenge, and May 31 in Lost Johnny. See maps in Appendix WW” would be amended to “A reclaimed road has been treated in such a manner so as to no longer function as a road or trail during the non-denning season and has a legal closure order until reclamation treatment is effective. Exceptions include snowmobile use until April 15 in Canyon Creek, April 30 in Sixmile, May 15 in Skyland Challenge, and May 31 in Lost Johnny as well as administrative use for 30 consecutive days of motorized access per year in Grizzly Bear core habitat outside of the denning season from July 1 to November 30 in 2016, 2017, and 2018 for temporary and specified road construction, BMPs and road rehabilitation in the area of the South Creek Trail Head and the Bent Creek area. See maps in Appendix WW for maps of snowmobile use.”
• Security Core Area Restricted Roads in Security Core Areas – "Restricted roads may occur within security core areas, but they may not receive motorized use during the non-denning period, with the exception of snowmobile use which is allowed in the areas defined by Amendment 24: Canyon Creek until April 15; Sixmile until April 30; Skyland Challenge until May 15; Lost Johnny until May 31." would be amended to “Restricted roads may occur within security core areas, but they may not receive motorized use during the non-denning period, with the following exceptions of snowmobile use and administrative use. Snowmobile use is allowed in the areas defined by Amendment 24: Canyon Creek until April 15; Sixmile until April 30; Skyland Challenge until May 15; Lost Johnny until May 31. Administrative use is allowed for 30 consecutive days of motorized access per year in Grizzly Bear core habitat outside of the denning season from July 1 to November 30 in 2016, 2017, and 2018 for temporary and specified road construction, Best Management Practices and road rehabilitation in the area of the South Creek Trail Head and the Bent Creek area.”

**PROJECT DESIGN CRITERIA**

**Soils**

- Winter harvest operations with ground-based equipment would be restricted to slopes less than 40 percent.
- Ground based harvest within units would be restricted to frozen or snow cover conditions. Winter logging requires that there be enough snow to prevent muddy water from mixing into the snow where equipment operates. This would require about ten inches of snow. The depth of snow varies with the snow conditions. It takes more dry powder snow than wet dense snow to protect the soil surface. Soils must be frozen enough to prevent deformation of the soil surface where equipment operates.
- Main skid trails and temporary access roads would be designated by the timber sale administrator. All existing roads and skid trails would be reused to the extent feasible unless doing so would adversely affect soil, water or other resources. If roads or trails cannot be reused, their extent and location must be considered when laying out additional skid trails.
- All non-merchantable material would be conserved on site to extent practical.
- All ground based skid trails would be stabilized using standard operating practices. The sale administrator would have the option to use slash to reduce erosion potential. The depth and continuity of slash would increase with bare soil coverage and trail steepness.
- All skyline corridors would use Flathead National Forest standard practices to stabilize against soil erosion. Techniques may include waterbars and slash placed on bare soils.
- All temporary roads would be reclaimed by site-appropriate combinations of the following:
  - Removing any installed culverts or temporary bridges,
  - Restoring hillslope to original ground line (Figure 3),
  - Where original ground line is intact, ripping road bed with excavator teeth to a depth equal sufficient to break up compacted layer (usually between two and 12 inches),
  - Transplanting adjacent vegetation and soil inoculants,
  - Placing woody material on the template,
  - Seeding with the native plant mix as specified by the Forest Botanist and/or
  - Planting native shrubs/trees to augment natural vegetation.
Figure 3. Road Cross-Section Showing Location of Original Ground Line.

Aquatics
- No salvage harvest would occur in Riparian Habitat Conservation Areas (RHCAs) which are defined as:
  - Fish-bearing streams (Bent Creek, South Creek) — 300’ slope distance from either side of the channel
  - Perennial, non-fish bearing streams — 150’ slope distance from either side of the channel
  - Intermittent Streams in Priority Watersheds (Bent Creek tributaries) — 100’ slope distance from either side of the channel
  - Intermittent Streams in non-Priority Watersheds (South Creek tributaries) — 50’ slope distance from either side of the channel
  - Wetlands 1 acre in size or greater — 150’ from Ordinary High Water Mark
  - Wetlands less than 1 acre — 100’ from Ordinary High Water Mark.

*Additional riparian habitats beyond those already identified through RHCAs may be identified through onsite verification during layout.

- Temporary road construction/reclamation would occur during dry conditions, as determined by the Forest Soil Scientist, to allow effective implementation of required BMPs to reduce or
eliminate effects to water quality. Reclamation of temporary roads would occur as soon as practicable.

- All applicable BMPs would be implemented in harvest units and haul roads.
- In addition to normal BMPs on plowed roads, openings in snow berms would be provided for surface drainage. The openings would not drain into streams or wetlands.

**Vegetation**

- All live trees would be retained within salvage units.
- The largest dead western larch and possibly Douglas-fir would be retained; minimum snag retention diameters by species would be assigned by unit.
- All live and dead black cottonwood, quaking aspen, paper birch, western white pine, and ponderosa pine would be retained.
- All of the live trees and snags designated to be retained would be left standing wherever possible, unless they need to be felled for reasons such as hazard trees, landing locations, skid trails, and skyline corridors. Trees felled for safety reasons would be left on site.
- Large downed wood necessary for retention would be left intact wherever possible.

**Botany**

*Non-Native Invasive Plant Species (Noxious Weeds)*

- Ground-disturbed areas in salvage units, roads, and temporary and specified roads would be monitored for weeds. Monitoring would occur for at least three years following implementation of the proposed action. Surveys and monitoring would be conducted by the District or Forest Weeds Specialist, Weeds Technicians, the Forest Botanist or Botany Technicians.
- All off-road logging and construction equipment use associated with this project and temporary and specified road construction would be power scrubbed or steam cleaned on the undercarriage and chassis before transport to the project area. This cleaning would remove all soil, plant parts, seeds, vegetative matter, or other debris that could contain or hold seeds. All subsequent entries of equipment to the project area would be treated in the same manner as the initial entry. Off-road equipment includes all logging and construction machinery, except for log trucks, chip vans, service vehicles, water trucks, pickup trucks, cars, and similar vehicles.
- Vegetation on bare ground created by salvage activity would be re-established. Landings, temporary roads, and disturbed roadsides would be seeded with a certified grass ground cover (seed mix of native plants would be specified by the Forest Botanist), in conditions that provide enough water availability for successful germination and establishment of grass seed, to enable the best chance of success, after disturbance to provide for site protection until native species are established. These conditions typically occur in the fall, winter and early spring, when there are consistent precipitation events.

*Threatened, Endangered and Sensitive Plant Species*

- If undocumented populations of sensitive plants are found during surveys or project implementation, they would be evaluated and protected as necessary to retain population viability. A contract provision would incorporate this into any timber sale contract and would specify that the contract would be modified to protect these plants if located.

**Wildlife**

- Motorized access would be allowed in grizzly bear core area only during the denning period (December 1 to April 1), with the exception of up to three 30-day time periods (one per year) to allow for temporary and specified road construction, BMPs road maintenance and road
rehabilitation. Time periods would occur between July 1 and November 30, 2016, 2017, and 2018 and be selected when conditions are most suitable for road work.

- Outside of grizzly bear core area, on roads closed to public motorize use, timber harvest and roadwork activities would not occur between April 1 and June 30 to minimize effects to grizzly bears during the critical spring period. Motorized travel for other project activities such as BMP road treatments, sale preparation, and planting would be allowed on open roads and on closed roads where consistent with administrative use levels.

- Hunting, transporting of hunters, transporting of game, and personal-use firewood gathering would be prohibited by timber, road building, or other contract workers while working on or off roads closed to motorized vehicle use by the general public.

- All existing roads currently closed to public motorized use would remain closed during implementation of all proposed activities.

- All contractors and others implementing the project would be required to comply with the current food-storage and sanitation order.

- If any of the following are found within or close to any salvage unit or road location, operations within that unit or on that road would cease until the wildlife biologist is notified, and activities are modified if necessary:
  - Active denning sites used by grizzly bears, wolves, lynx, fishers, or wolverines,
  - Active nesting sites used by bald eagles, northern goshawks, or flammulated owls,
  - Active rendezvous (pup rearing) sites used by wolves and/or
  - Concentrations of boreal toads.

**Riparian Wildlife Habitat**

- For wetlands of any size, standing and downed trees would not be removed within designated Inland Native Fish Strategy (INFISH) buffer distances or 100 feet, whichever is greatest. If bark beetle larvae are present, the beetles may be removed or killed by debarking or other methods that do not include felling or removal of the tree or log. Standing trees within 100 feet of wetlands would be left standing whenever they do not pose a safety hazard. Logs of all species that have any part extending into wetlands or wetland edges would remain in place.

### Table 2. Summary of the Proposed Action

<table>
<thead>
<tr>
<th>Proposed Activity</th>
<th>*Approximate Units or Activity Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Harvest Proposals</strong></td>
<td></td>
</tr>
<tr>
<td>Harvest burned and dead trees</td>
<td>1,351 acres</td>
</tr>
<tr>
<td><strong>Transportation Proposals</strong></td>
<td></td>
</tr>
<tr>
<td>New system roads to be stored</td>
<td>7.8 miles</td>
</tr>
<tr>
<td>Temporary roads on existing road templates</td>
<td>4.5 miles</td>
</tr>
<tr>
<td>New temporary roads</td>
<td>.8 miles</td>
</tr>
<tr>
<td><strong>Temporary Access Changes</strong></td>
<td></td>
</tr>
<tr>
<td>Roads open yearlong to public wheeled motorized use changed to closed during hauling operations (typically December 1 to March 31) and closed to</td>
<td></td>
</tr>
<tr>
<td>Proposed Activity</td>
<td>*Approximate Units or Activity Description</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>over-snow motorized use Monday through Friday during hauling operations.</td>
<td>32.8 miles</td>
</tr>
<tr>
<td><strong>Fisheries Habitat and Watershed Improvements</strong></td>
<td></td>
</tr>
<tr>
<td>Remove culvert</td>
<td>1 culvert</td>
</tr>
<tr>
<td>Perform BMP work</td>
<td>4.5 miles</td>
</tr>
<tr>
<td><strong>Reforestation and Wildlife</strong></td>
<td></td>
</tr>
<tr>
<td>Plant conifer trees throughout the area burned by the Trail Creek Fire</td>
<td>Up to 3,000 acres</td>
</tr>
<tr>
<td>Plant trees and shrubs in and near proposed harvest units</td>
<td>Up to 500 acres</td>
</tr>
</tbody>
</table>

**COMPATIBILITY OF SALVAGE HARVEST WITH FOREST PLAN DIRECTION**

The National Forest System lands within this area where salvage harvest would occur are classified in the Forest Plan as the following management areas (MAs):

- **MA 15E** – emphasis on cost-efficient production of timber while protecting the productivity capacity of the land and timber resource
- **MA13** – consists of timberlands capable of providing mule deer and elk winter habitat

There is Wilderness located in the north side of the fire perimeter; however no activities are proposed in Wilderness.

There is 5656 acres of Inventoried Roadless Area in the project area; however the only action proposed in the Inventoried Roadless Area is the felling of hazard trees that pose an imminent threat to forest visitors, employees, and contractors along Forest Service Trails 327 and 75.
Figure 4. Proposed Action Map

Trail Creek Fire Salvage
Spotted Bear Ranger District
Flathead National Forest

Legend
- Culvert Removal
- Project Boundary
- Inventoried Roadless Areas
- Grizzly Bear Core Area
- Logging Systems
  - Skyline
  - Tractor
- Streams
- Trails
- Forest Service Roads
- New System Roads
- Proposed for Storage
- Temporary Roads
  - Existing Road Template
  - New

Scale 1:50,000

North arrow for orientation.