COLVILLE NATIONAL FOREST
BURNED AREA EMERGENCY RESPONSE [BAER] PLAN

STICKPIN FIRE
RECREATION RESOURCE ASSESSMENT

I. OBJECTIVES

•Assess effects of the fire to the health and safety of recreationists.

•Evaluate recreation facilities for potential damage as a result of changed watershed conditions and fire damaged vegetation.

•Evaluate threat to critical resources from potential erosion from trails.

•Prescribe emergency stabilization measures and/or monitoring.

II. ISSUES

•The Colville National Forest lands within and adjacent to the Kettle Complex Fire are very important to the local community. Specifically, the Kettle Mountain Range is one of the defining features of Northeast Washington. The Stickpin Fire of the Kettle Complex lies over the Kettle Mountain Range, where a large trail system traverses, providing access to grassy meadows, high mountain peaks, summer wildflowers, and impressive views in all directions. A significant portion of the Stickpin Fire burned with high intensity and high severity along the upper elevations where the trail system primarily lies.

•Deer Creek Forest Camp experienced high intensity fire behavior. All amenities and infrastructure was destroyed except for a CXT toilet and one picnic table. Any trees left in this area are considered hazards.

•11 trails are within the perimeter of the Stickpin Fire. These trails include the Kettle Crest National Recreation Trail, Pacific Northwest National Scenic Trail, and Boulder-Deer Nordic ski trails. There will be a high risk to trail users from falling snags for several years.

•This area within the Stickpin Fire on the Colville National Forest is very popular for hunting, primarily for big game.

III. OBSERVATIONS

<u>Background</u>

Developed campgrounds, trailheads and trails exist within the burned area. Deer Creek Forest Camp experienced moderate severity and high intensity fire conditions that destroyed or damaged all infrastructure and vegetation in the site. A single CXT toilet and one picnic table is the exception.

The main trail within the fire perimeter is the Kettle Crest National Scenic Trail, which is part of the Pacific Northwest National Scenic Trail. This trail experienced large amounts of high severity and intensity fire. Most of the other trails affected by the Stickpin Fire are "feeder" trails to the Kettle Crest and experienced varying degrees of fire intensity, as they typically range from unburned areas near the trailheads to high intensity and severity around the crest.

Northeast Washington is very popular for big game hunting. This area of the Colville National Forest attracts many hunters.

The Albian Hill Road (Forest Road 2030) is groomed for snowmobile use and is quite popular. This road travels along the southern perimeter of the Stickpin Fire, paralleling the South Fork Boulder Creek for most of its path.

IV. FINDINGS

Reconnaissance Methodology and Results

Field assessments of the recreation sites and trails were conducted on September 23-26, 2015. An aerial reconnaissance was made of the fire on September 24. After completing the field assessment, reconnaissance was made by reviewing post-fire burn intensity maps and severity maps. The purpose of the reconnaissance was to determine and assess potential negative effects on recreation sites and trails attributable to the wildfire. Due to the large size of the fire, the amount of deadfall on roads, and existing standing hazard trees, not all portions of trails were able to be observed. A representative sample of the types of trails, elevations, aspects, and fire severity was selected to inspect and make recommendations from.

Trails

Trail within the Stickpin Fire (nearly half) experienced mostly high burn severity conditions. Trails have damaged tread where roots and stump holes burned and collapsed the walking surface. Many fallen fire-killed trees and much debris that has rolled into the tread have impeded trail access, throughout the fire area.

Danger from falling snags will be high and will persist for many years. There will also be increased risk to hikers from debris flows in cases of large precipitation events on trails, especially when mixed with snow melt.

The Kettle Crest National Recreation Trail / Pacific Northwest National Scenic Trail is one of the most used and significant trails on the Colville National Forest. Desire to keep this trail accessible and open will be very high. This trail also recently received major trail rehabilitation renewing the trail tread, water bars, turnpikes, and small bridges. Much of this trail has survived intact despite the high severity burn conditions that surrounded it. The existing trail tread is still mostly visible and grade dips and out-sloping seem to be functioning in the areas where the trail is not on a steep grade. But in high severity burn areas where the trail has steeper grade, water bars and drainage features will need to be cleaned, and additional drainage features installed to protect this asset. It is assumed this is the case with all trails within the burn perimeter, and was verified by observations on other sampled trails.

A Nordic Ski system exists at the summit of the Boulder-Deer highway. This is a combination of roads and trail segments that are maintained and/or groomed for classic Nordic skiing, skate skiing, and backcountry skiing. These trails are in the high severity burn area. Due to the vast amount of hazard trees surrounding these trails, and the fact that winter conditions will accelerate those trees falling; it is recommended that gates be installed to prevent access to these areas for as many winters as is necessary. Closure devices less significant than gates will be ineffective at preventing access, as the access points are next to a plowed road. This is in contrast to summer trails, for which snow impedes access at a much further distance away during the winter season. Thus, use of summer trails is not expected during the winter. These gates should be installed at the

Boulder-Deer Nordic Sno-parks (North and South), and at Third Creek on the Boulder-Deer Highway. Additionally, there is a CXT toilet at the South Sno-Park which is in danger of becoming filled with sediment and water, overflowing and exposing the environment to a hazardous material release. We recommend that the toilet be pumped and locked until the area is deemed safe for public use. A ditch should be constructed around the toilet to divert water and debris from travelling down from the above burned hill into the vault.

Trailheads

Aside from previously mentioned Sno-Parks, other trailheads within the burn perimeter are the Long Alec Trailhead, Profanity Trailhead, Taylor Ridge Access Point, Ryan Cabin Trailhead, and Stickpin Trailhead. The Long Alec Trailhead, Profanity Trailhead, and Stickpin Trailhead had minimal amenities, primarily just trail signs and parking areas. It is assumed all signage has been burned, and no emergency treatment is needed. Ryan Cabin Trailhead, which lies within a low severity burn area, survived the fire with all facilities intact. These facilities include signage, hitching posts and a fire ring. Taylor Ridge Access Point lies within an unburned area on the edge of the fire perimeter. The modest facilities of a small sign and parking area with a rock fire ring are all intact.

Deer Creek Forest Camp

Deer Creek Forest Camp was destroyed by fire. All remaining trees are considered hazards to the public and to employees. The entire infrastructure, minus one picnic table and a single CXT toilet, was burned or otherwise damaged. This campground was only occasionally used. However it does provide one of the few developed campsites with amenities for through-hikers of the Pacific Northwest National Scenic Trail. Our recommendation is to close the campground (which could be accomplished by using the gate installed at the nearby Sno-park) to prevent access to the site. Water for this campground traditionally has been supplied by a spring on the south side of the Boulder-Deer Highway (both for stock and through-hikers). The spring is still currently running water through a damaged piping system to burned troughs. To protect the water source for future use, a new lid to the spring box should be installed to prevent debris and sediment from contaminating and clogging the spring.

IV. EMERGENCY STABILIZATION RECOMMENDATIONS

Example of a trail segment that is at high risk of erosion unless measures are taken to improve drainage.

Stump Hole on trail.

- **Trail and Recreation Area Hazard Warning Signs**

Description: Purchase and install signs at all developed recreation sites, dispersed recreation sites with known history of use, and all trails that access the burned area. The signs will warn of increased hazards due to post fire conditions, including falling snags, rolling debris, and flooding. Closed areas will be posted as closed in a prominent manner.
Monitoring: Regularly patrol recreation areas and trailheads to ensure signs are posted. Replace signs when necessary.

- **Clean Existing Trail Drainage Structures**

Description: Clean existing trail drainage structures (water bars and check dams), and remove slough and berm from tread on trails that are within High and Moderate burn severity areas to ensure optimum functionality. Work should be performed prior to snowfall in order to be functional for spring snowmelt or a seasonal rain-on-snow event could prove catastrophic.
Monitoring: Inspect trails after major precipitation events and after spring runoff to assess effectiveness of erosion control structures at diverting water from trail surface.

- **Trail Erosion Control Facility Installation**

Description: Install drainage structures along portions of trails to protect water quality and minimize damage to trails. Rock water bars and armored stream crossings are the preferred structures. Work should be performed prior to snowfall in order to be functional for spring melt or a seasonal rain-on-snow event that could prove catastrophic.
Monitoring: Inspect trails after major precipitation events and after spring runoff to assess effectiveness of erosion control structures at diverting water from trail surface.

- **Temporarily Close XC Ski Trails in Boulder-Deer Summit Area.**

Description: Install three gates to prevent use of XC Ski Trails in the Boulder-Deer Summit Area. These trails are in the high burn severity area, and all remaining standing trees are considered to be a hazard to users. It is expected that winter weather will cause many trees to fail and fall across the trail. These trails are accessed from a plowed road, so winter use is likely. Gates will be the most effective way to prevent use of this road/trail system. Gates should be installed at North and South Sno-Parks, as well as the Third Creek Road off of Boulder Creek Road.
Monitoring: Regularly patrol area to ensure presence and functionality of gates and ensure compliance with closure. Repair or replace damaged gates and signing.

- **Prevent Hazardous Material Release at Deer Creek XC Sno-Park (South)**

Description: Pump CXT toilet vault to lessen the amount of hazardous materials present in the vault. Construct a ditch around the CXT toilet building to direct debris and water from entering and overflowing the vault, which would expose the environment and humans to hazardous waste.
Monitoring: Inspect ditches after major precipitation events and after spring runoff to assess effectiveness of erosion control structures at diverting water from toilet area.

- **Temporarily Close Deer Creek Forest Camp**

Description: Due to extreme number of hazards present at this site, we recommend temporarily closing Deer Creek Forest Camp to public use until the risk from Hazard Trees has been removed. This can be accomplished by closing the gate mentioned in the XC ski trail recommendation section.
Monitoring: Periodically assess area to monitor for compliance with closure, and presence of gates.

V. CONSULTATIONS

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VI. REFERENCES

Forest Service Handbook 2309.18

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