

Blue Cut Fire BAER Specialist Report

Hiking Trails and OHV Incursions Report

Resource Specialty: Hiking Trails and Off Highway Vehicle Impacts

Fire Name: Blue Cut

Month and Year: August, 2016

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I. Potential Values at Risk (identified prior to the on-the-ground survey)

A. Critical Values

Trails

Values at Risk associated with the trails in the Blue Cut Fire Burned Area are:

- Threat to **life and safety** of forest visitors using the Pacific Crest and Mormon Rock Trails and BAER Implementation Team Members working on proposed treatments.
- Threat to **property** from damage or loss of segments of the trail system. Trail miles within the affected trail system are:
 - Pacific Crest National Recreation Trail (PCT) 18.5m
 - Trail Segments: 2000.3, 2000.4, 2000.5, 2000.6
 - Mormon Rocks Interpretive Trail #6W04 1.04m
 - **TOTAL TRAIL MILES: 19.5 miles**
 - *NOTE: Only trail segments impacted by post fire scouring and/or depositional processes will be treated.*

Post-fire OHV Impacts on Critical Natural and Cultural Values at Risk

Off highway vehicle (OHV) use within and around the burned area is very high. Before the fire, vegetation played a major role in limiting OHV activity to system roads and trails. It is very likely that, following removal of vegetation by the fire, expansion of illegal OHV trespass will expand beyond system roads and trails.

B. Resource Condition Assessment

(a) Resource Setting

The PCT traverses high desert terrain ranging across flood plains to arid, hot, steep ridgelines, rocky hillsides and deep ravines susceptible to flash flooding and debris flows that historically have impacted Crowder Canyon, Swarthout Canyon, Lone Pine Canyon and the Cajon Wash from high intensity thunderstorm activity during monsoon season and heavier winter events.

Vegetation includes typical sparsely wooded, heavy chaparral brush fields at all elevations with old growth Oak, Sycamore and Poison Oak drainages below the ridgelines. Small pockets of conifers and Big Cone Fir survive at the far northern edge of the fire.

Storms of concern include high intensity thunderstorms and longer duration winter storms. "Pineapple express" rainfall events have historically caused severe flash flooding in this area. Winter storms can also include several inches of snow accumulation at higher elevations along the PCT corridor.

There is heavy OHV use in the general area and within the burn area. With the exception of the PCT and the Mormon Rocks Interpretive Trail there are no vehicle use prohibitions on authorized roads and OHV trails within the burn area. However, multiple use recreation impacts, especially OHV incursions, on off-system roads and trails, are likely to increase following the fire due to removal of vegetation.

(b) Findings of the On-The-Ground Survey

Pacific Crest Trail and Mormon Rocks Interpretive Trail

Emergency conditions exist for specific sections of the Pacific Crest Trail within or below burned areas where post fire erosion, flooding and/or debris flows are likely to occur, especially at the Cajon Wash/Crowder Canyon confluence. These emergency conditions are based on anticipated post wildfire impacts on trails and trail users.

Threats to trails and trail users, identified by a trail specialist and soils scientists include:

- Excessive erosion of the trail tread caused by interception and diversion of runoff from steep burned hill-slopes
- Scouring or deposition where trails intersect with several larger drainages, numerous moderate drainages and crenulations
- Illegal OHV use on the Pacific Crest Trail
- Increased potential for falling rocks, debris and hazard tree damage

Post-fire OHV Impacts on Critical Natural and Cultural Values at Risk

Threats to soil productivity and recovery of native vegetation were identified by rec. OHV specialists and a soil scientist. Expansion of OHV impacts is very likely to impact recovery of native vegetation and long term soil productivity. These impacts are associated with increased risk for establishment of noxious weeds in the burned area and chronic (long term) soil disturbance and sedimentation associated with increased post fire OHV trespass off system roads and trails. Increased chronic sedimentation is likely to impact occupied Arroyo Toad habitat (listed species) and water quality downstream. Expansion of OHV impacts from trespass is very likely to occur on NFS lands adjacent to the I-15, State Highway 138, Swarthout Canyon Rd, FSR's 3N22, 3N44, 3N47, 3N49, 3N89, 3N29, 3N31Y and 3N31YA relevant to the PCT. Additionally, removal of vegetation has increased potential for illegal OHV incursion on the Pacific Crest Trail.

(c) BAER Risk Assessment

Probability of Damage or Loss	Magnitude of Consequences		
	Major	Moderate	Minor
RISK			
Very Likely	Very High	Very High	Low
Likely	Very High	High	Low
Possible	High	Intermediate	Low
Unlikely	Intermediate	Low	Very Low

The probability of damage to the Pacific Crest Trail is **very likely** based on anticipated post fire scour and deposition processes (runoff, erosion, debris-flows). The magnitude of consequences is **moderate**. Therefore, the magnitude of consequences is **very high**. BAER treatments are recommended.

The probability that Pacific Crest Trail users could be impacted by falling rocks or trail failure is **possible**. The magnitude of consequences is **major**. Therefore, the BAER risk is **high**. BAER treatments are recommended.

The probability of damage to the Mormon Rocks Interpretive Trail is **likely** based on anticipated post fire scour and deposition processes (runoff, erosion, debris-flows). The magnitude of consequences is **moderate**. Therefore, the BAER risk is **high**. BAER treatments are recommended.

The probability that Mormon Rocks trail users could be impacted by falling rock, debris or trail failure is **possible**. The magnitude of consequences is **major**. Therefore, the BAER risk is **high**. BAER treatments are recommended.

The probability that expansion of OHV impacts could impact recovery of native vegetation and long term soil productivity is **very likely** in selected areas along FSRs 3N22, 3N44, 3N47, 3N49, 3N89, Swarthout Canyon Rd, 3N29, 3N31Y and 3N31YA. Based on the degree and extent of post fire OHV trespass, impacts on soil productivity, water quality and Arroyo Toad habitat are **likely**. The magnitude of consequences is **moderate**. Therefore, the BAER risk is **high**. BAER treatments are recommended.

The probability that increased illegal OHV use on the Pacific Crest Trail could occur is **likely** in selected areas. The magnitude of consequences is **moderate**. Therefore, the BAER risk is **high**. BAER treatments proposed for recovery of native vegetation and long term soil productivity serve to reduce this risk.

Emergency Determination

Based on the preceding risk assessments, emergency conditions for property (Pacific Crest Trail and Mormon Rocks Interpretive Trail) and critical natural resources (soil productivity, water quality, Arroyo Toad habitat) exist within the burned area. Increased risk for life and safety of Pacific Crest Trail and Mormon Rocks Trail users is also an emergency for which BAER treatments are proposed.

C. Treatments to Mitigate the Emergency

Trail Storm Proofing

Prior to the first damaging rain events and within the first year following the fire, storm proofing is recommended to minimize erosion or removal of trail tread. Storm proofing treatments, implemented with hand-tools, would include out-sloping, de-berming, rolling dips, armored crossings at ephemeral drainages, and other suitable treatments outlined in the BAER Treatments Catalog to protect the trail from accelerated post fire flows and soil erosion.

Pre Winter projects would include 5-6 days of storm proofing treatments.

Following winter storms and before spring opening, it is likely additional repairs would be needed requiring another 5-6 days of crew time.

***NOTE:** This schedule will ensure the trail will be in good repair for 2017 Through Hikers.*

Treatments are recommended for 18.5 miles of the Pacific Crest Trail (Sections 3-6) and 1.04 mile of The Mormon Rocks Trail. Treatments would only be applied where post fire scouring and/or depositional processes are likely to impact the trail.

Storm Inspection and Response

The inspectors would repair and maintain storm proofing treatments by correcting expected problems prior to spring trail opening. Information gathered during these site visits may also be used to submit an interim funding request to the region. This treatment would be applied in the same zones of concern identified in the trail storm proofing section, above.

Warning Signs for the Pacific Crest Trail:

Closure of the PCT is "to be determined". There is strong public interest in the trail as a recreational opportunity. Some "hazard tree" risks exist for approximately one mile at the north edge of the fire. Signs to warn users of hazardous conditions will be installed as soon as practical if the trail remains open, or appropriate Forest Closure signage will be posted otherwise. Ongoing trail and watershed conditions will be evaluated, especially after the first winter following the fire. Early spring monitoring and repair of trail and watershed conditions will be scheduled to ensure the safety of heavy, annual "through hiker traffic".

***Note:** PCT Hikers using Hwy 138 or Lone Pine Canyon Rd as an alternate would risk extremely hazardous traffic conditions.*

NOTES:

- The proposal is subject to Heritage Review and Approval before Implementation*
- The probability of completing treatment in the first year prior to damaging storms or events is very likely (90%).*

-The probability of treatment success is likely to very likely (80%) although it is recognized that extreme precipitation events could impact the trail regardless of trail stabilization measures.

-It may be necessary to prioritize the schedule of recommended treatments in two phases. Some preliminary treatments will be completed, (initial storm proofing i.e. rolling dips, berm removal etc.) prior to Monsoon or winter storms.

-It is recommended we consider final treatment be delayed to coincide with Spring "Trail Opening" to ensure the safety and backpacking experience for 2017 PCT thru hikers.

I. Discussion/Summary/Recommendations

- Recommend immediate minor treatment and repair as soon as practical along the PCT corridor, reserving ample funding to repair any unexpected heavy winter damage to ensure the protection and safety of spring through hikers.
- Implement the proposed fencing at Pacific Crest Trail junctions with FSR's

***IN ADDITION: Fencing Treatments**

**Proposed Post and Cable Fencing and Walk Thrus - # Feet/Mile TBD
Consult with OHV Advisor (Travis Mason) on final amount**



Caption:
PCT Eastern aspect approximately 1 mile South of Gobblers knob. Some Big Cone Fir populations may regenerate



Caption:
Mormon Rocks Interpretive Trail:
5 switchbacks at the north end; 3 at the south loop require storm proofing. 20 interp posts lost
Treatment for structure protection of the Engine Bay directly downhill



Caption:
Destroyed Bridge near the Culvert Trail Underpass in Section 5 near 3N49



Caption:
Crowder Canyon Confluence
High Risk of flash flood, debris flows, loss of tread