

# BAER Analysis Briefing: Chiwaukum Creek Fire 09/08/2014



The Chiwaukum Creek Fire started on July 15, 2014 and burned 13,893 acres in the Nason Creek Watershed and Wenatchee River Watershed south of Lake Wenatchee in central Washington. Of the total fire area, 11,656 acres are National Forest System lands and 2,237 acres are in private ownership. Most of the burned acres and high soil burn severity occurred in the Chiwaukum Creek and Tumwater Canyon areas, subwatersheds of the Wenatchee River Watershed.

A Burned Area Emergency Response (BAER) team on September 8 submitted a request for \$99,707 in funding for risk-mitigation projects to improve road drainage, install ALERT storm warning systems, initiate storm patrol, install burned area hazard signs and gates, and initiate emergency detection and rapid response for identified hazard areas.

After the fire, several debris flows occurred in Chiwaukum Creek after relatively small rainstorms, and similar debris flows are expected from Thompson Creek and Hatchery Creek, with more expected in Chiwaukum Creek. Flooding and debris in the area could cause culvert blockage and failure; portions of roadways could be lost with the culvert failures, blocking exit options for persons in the area.

In the Tumwater Campground area, several debris flows have already occurred upstream of the campground. One storm created an ash-laden flow adjacent to the campground, and similar problems are expected in or near the campground.

Burned trees adjacent to area trails are hazardous to anyone in the area, and debris flows along trails could risk safety of hikers and cut off escape. At the backcountry Chiwaukum Creek campsite, burn severity of nearby slopes is mostly moderate, but debris flows develop quickly and could surprise hikers, leaving no options for escape.

Private residences in Chiwaukum Canyon are at risk. Several post-fire debris flows have already occurred in Chiwaukum Creek, even after relatively mild rainfall, and more debris flows from Chiwaukum Creek are expected. These could block culverts and cause roadway failures – and there is no other way out from these areas.

Private residences in Chiwaukum Estates above Thompson Creek are also at risk; much of the area burned at high-to-moderate severity. Road erosion and culvert failure are expected, and portions of the roadway could be lost. There is no alternative way out from the area.

Also at risk is the Hatchery Creek residential tract, which is sited on an alluvial fan on both sides of Hatchery Creek downslope of the Hatchery Creek Road. The tributary south of Hatchery Creek has produced at least one recent debris flow, and more are expected. Also at risk is private property in Chiwaukum Canyon and in Chiwaukum Estates above Thompson Creek. These properties are at risk of debris flows, erosion, and increased runoff caused by storms and snowmelt; road access into and out of these areas could be blocked.

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In the Tumwater Campground area, burn severity was approximately 50 percent low and 50 percent moderate. Sewage lagoons are adjacent to slopes burned at approximately 70 percent low and 30 percent moderate severity.

All roads in the burned area are at risk of falling rocks or trees blocking the roadway, blocked culverts, and debris flows that could leave sediment on the roadway or result in loss of parts of the roads. Flooding and debris flows could also cause problems on sections of Skinney Creek and Highway 2.

Water quality in the area will be negatively affected by ash, sediment, and debris; sediment is likely to flow through burned area streams into the Wenatchee River and beyond. Post-fire effects to the Wenatchee River and the Chiwaukum Creek watershed could include increased water temperatures, peak flows, and channel scour, along with landslides and debris flows. Chiwaukum Creek experienced some high-to-moderate burn severity, and increased sedimentation could negatively affect the bull trout population.

Effects on spring Chinook and summer steelhead habitat upstream of the Chiwaukum Complex should be minimal. Negative effects to fish species in the Wenatchee River are possible, but impacts should be minimal. Damage to fisheries on Chiwaukum Creek, though, is likely (50 to 90 percent occurrence within 1-3 years).

Soil loss caused by post-wildfire erosion in some areas will result in a long-term loss of soil productivity. Natural recovery of ground cover vegetation is likely over the next 3-5 years, but in areas that were severely burned, pre-fire conditions will not be restored until a new forest stand is established.

Planned Forest Service projects within the Chiwaukum Fire area focus on the safety of persons traveling on US Highway 2, FSR 7905, and FSR 7909 within developed recreation sites and along trails within and downstream of the burn area. Post-fire work will also include signage, area closures, repair or relocation of campground facilities, fire closure signs, and installation of precipitation monitoring stations within the fire perimeter.

Other planned projects will ensure safe access within the drainage and reduce road-related hazards. Some road work will reduce the risk of runoff downstream of the fire and address safety issues where debris flows meet a drainage structures. Many road and trail treatments are planned or already under way, and all risk-reduction activities will be monitored.

## Questions?

Check for updates on the BAER team website at [CentralWashingtonFireRecovery.info](http://CentralWashingtonFireRecovery.info) or call the Okanogan-Wenatchee National Forest headquarters office at 509-664-9200.