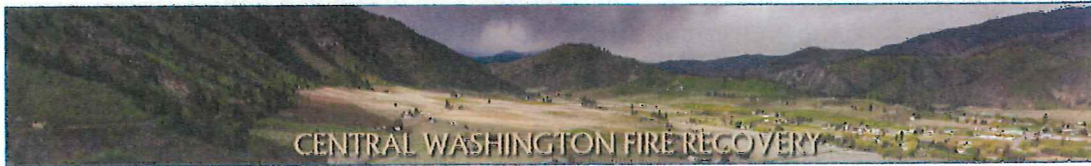


WOLVERINE FIRE: Talking Points



October 29, 2015

Okanogan-Wenatchee National Forest
215 Melody Lane
Wenatchee WA 98801

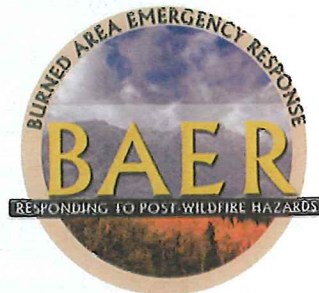
Burned Area Emergency Response

BAER is an emergency post-fire program to identify and reduce threats to human life and safety, property, and natural or cultural resources.

The BAER program does *not* include fire suppression damage repair, post-fire rehab, or repair of actual damage caused by the fire. These projects, along with long-term fire restoration, are included under other agency programs, but not the BAER program.

BAER treatments or projects are limited to Forest Service lands and resources. When a BAER team identifies threats or hazards not on Forest Service lands, the agency coordinates with other federal, state, or local agencies with authority for preparedness and emergency response. This often includes state agencies, county emergency response, or agencies such as the Natural Resources Conservation Service (NRCS) that works with private landowners.

In 2015 two BAER teams were staffed to evaluate post-fire conditions for the central Washington fires. One team worked out of Republic to assess the Tunk Block and Northstar fires; another team worked from Wenatchee to assess the First Creek, Wolverine, Black Canyon (Chelan Complex), Twisp River, and Lime Belt fires.



BAER IS POST-FIRE
SHORT-TERM PROJECTS
OF HAZARD REDUCTION
ON NFS LANDS.

BAER IS NOT REHAB,
RESTORATION, OR FIRE
DAMAGE REPAIR ON FS
OR NON-FS LANDS.

Wolverine Fire

Started by lightning on June 29 on Lightning Ridge on the Chelan Ranger District west of Lucerne landing, the Wolverine Fire burned into Domke Lake and up Railroad Creek toward Holden Village and the Holden Mine site. The fire burned into the headwaters of the Entiat River and down to the area of the 2014 Duncan Fire.

Wolverine Fire on the Okanogan-Wenatchee National Forest:

Total acres 65,323
High burn severity 7,796 acres (12%)
Moderate burn severity 31,627 acres (48%)
National Forest acres 62,469
Railroad Creek watershed 18,175
Entiat River watershed 23,493
Lake Chelan tributary area 23,648

Entiat River / Pope Creek:

The BAER report for the 2014 Duncan Fire recommended a 3-year closure east of Pope Creek. An annual review was also recommended, to make sure that the level of post-fire recovery made it safe to re-open the area. Several debris flows occurred in the Pope Creek area both during and after the Duncan Fire. The 2015 BAER team re-examined Pope Creek and found existing hazards in the area.

Pope Creek has had minimal recovery of vegetation in the 2014 burn, and the team found surface erosion and hydrophobic soils. Slope erosion was also found from the ridgetop to the north fork of Pope Creek, with noticeable sediment moved down to the creek.

FROM THE GEOLOGY REPORT: *“Field reconnaissance in the headwaters and upper slopes of Pope Creek in September 2015 revealed minimal vegetative recovery and significant surface erosion from rills and sheet flow. Soil tests revealed that burned soils exhibited strong hydrophobic conditions in areas mapped as severe and moderate burn severity from 2014 BAER mapping efforts. Rills downslope did not reveal debris flow initiation, but instead a persistence of slope erosion from the ridgetop to the north fork of Pope Creek. Channel conditions of Pope Creek indicate significant pre-fire slope adjacent mass wasting events that mobilized sediment to the creek.”*

POPE CREEK HAZARDS:

Poor vegetative recovery
 Surface erosion
 Hydrophobic soils
 Slope erosion
 Creek sedimentation
 Flooding/mudslide hazards
 FR 51 at risk
 Cabins at risk
 Road damage/trapping

The BAER team also noted a good chance of flooding or mudslides at Pope Creek, with related hazards to Forest Road 51 and cabins in the area. People on Road 51 north of the confluence with the Entiat could be trapped on the road if a wet storm causes flooding or mudslides. The Okanogan-Wenatchee is considering re-routing the road to reduce these hazards.

Entiat River above the North Fork:

Almost a third (about 23 square miles) of this watershed experienced moderate or high burns, and half of the area includes hydrophobic or water-repellent soils. The forest canopy before the fire was about 56 percent – a little over half – and it's now at just 25-30 percent. In several high-burn areas, the fire burned all the way down to both sides of the river, further increasing the likelihood of flooding and water-borne woody debris. There are several existing wood jams in the river above Cottonwood Campground, and heavy rains could increase the stream flow enough to start those wood jams moving downstream again.

Most of the watershed includes steep slopes; nearly 90 percent of the area has slopes of 30 percent or more. Those steep slopes, combined with a lack of ground cover on about a third of the watershed, dramatically increases runoff and erosion – particularly during heavy fall and winter storms. The reduced forest canopy and severe burns adjacent to the river combine to increase the flooding and mudslide risk even further.

A steady rain on October, for example, caused a spike in streamflow in the Entiat near Ardenvoir. The river flow rose from 70 to 170 cubic feet per second (cfs), and people in the area said the river “turned black.” The BAER team estimated post-fire streamflow at approximately 8,000 cfs – a little more than the 6,400 cfs at Ardenvoir that was recorded in 1972.

Tributaries to the Mainstem Entiat:

The BAER team analyzed two small tributaries of the Entiat above the North Fork – one unnamed stream that flows through Cottonwood Campground along with Shetipo Creek, which drains into the Entiat just above the campground. The campground stream was estimated at 45 percent moderate and high burn severity, and Shetipo Creek at 28 percent. The team listed an estimated streamflow of 17 cfs before the fire with a post-fire flow of 250 cfs.

Hazard-reduction projects:

The BAER team focused on risk reduction and proposed initial treatments or projects that could be completed before winter. They determined that high-elevation projects would likely not be effective, and that some instream projects might even increase the post-fire risk.

ENTIAT RIVER HAZARDS:

Canopy reduced by half
Burns on both river edges
Flooding risks
Logjam hazards
Very steep slopes
Burned ground cover
Increased runoff/erosion
Water-repellent soils
Mudslide hazards
Increased streamflow

Plans and objectives:

The Okanogan-Wenatchee is coordinating with staff at the Regional Office in Portland to pursue a Challenge Cost Share (CCS) grant for a management plan for the Entiat River corridor. Forest staff want to re-open the valley to use, with an objective of reducing risk to public safety in the floodplain corridor.

Railroad Creek:

Railroad Creek flows down to Lucerne Landing before it enters Lake Chelan. In the area are a barge landing, boat docks, about 5 acres of private land, occupancy by employees of Poole Engineering, Lake Chelan Boating Club cabins, two campgrounds, facilities for Rio Tinto and Holden Village, and a Forest Service Guard Station. Forest Road 8301 starts at this landing and is the only access to Holden Village and the Holden Mine Cleanup Site (a \$200 million remediation project managed by Rio Tinto).

According to the BAER team, Lucerne Landing in its current condition poses a very high risk to public safety. Forest Road 8301 crosses the slope above Railroad Creek for about 11 miles from Lucerne to Holden. Along this stretch, numerous hazards exist, with more than two dozen drainageways across the road, any one of which could take out the road. Avalanche frequency is also expected to increase. In almost all circumstances a BAER team would recommend closing this road till conditions improve, and the pending BAER request includes closure gates for Forest Road 8301.

RAILROAD CREEK HAZARDS:

- Lake shore area infrastructure
- Barge/boat landings/docks
- Campgrounds and cabins
- USFS guard station
- FR 8301
- Holden Mine site
- Road hazards
- Avalanche dangers
- Logjams and woody debris
- Flooding risks
- Resort cabins/docks
- Hazard trees
- Water supply at risk
- Road stranding hazards
- Flooding/mudslide risks

The BAER team has also recommended installing a boom to catch large woody debris to minimize hazards at the mouth of Railroad Creek.

Structures in the area include several mine offices, a water intake, a Forest Road bridge, a ferry dock and landing pad, along with other mining equipment. Southeast of the levee is a private resort with a dozen cabins and two docks, along with a Forest Service Guard Station, dock, and campsite. The campsite has been closed because of hazard trees.

Holden Village and Rio Tinto Site:

Firefighting efforts prevented even more acreage from burning around Holden Village and the Mine Site. The 2,050-acre Copper Creek watershed, which provides the water supply for Holden Village, had high and moderate burns of about 10 percent. Avalanches will probably occur more frequently above the Village, with the highest risk between Holden and Lucerne.

Check CentralWashingtonFireRecovery.info for more information.