



Post-Fire BAER Assessment

Burned Area Emergency Response (BAER)

Information Brief

CentralWashingtonFireRecovery.info



Uno Peak Fire – Values at Risk Matrix and Treatments

November 2017

EMERGENCY DETERMINATION

The BAER team began assessing the area for post-fire emergencies on September 29, 2017. In that time the team has identified the following values at risk to post-fire threats. Interim reports may be submitted as additional assessments are completed. The risk matrix below, Exhibit 2 of Interim Directive No.: 2520-2014-1 was used to evaluate the Risk Level for each value identified during Assessment. Only values at risk that had a risk of Intermediate or above are discussed.

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 table below describes the values at risk, probability of damage or loss, magnitude of consequences, risk, rationale for emergency treatment or actions and proposed treatments. Emergency Treatments activities (*public health and safety, land, channel, road and trail treatments, protection and safety or public engagement actions).

Critical Value at Risk	Description of Threat	Probability Magnitude Risk	Rationale for Emergency Management Actions	Risk Reduction Treatments/ Management Actions
Human Life and Safety Visitor use at Safety Harbor	Flooding and debris flows are expected in Safety Harbor Creek. Risk to employees and visitors from flooding at developed recreation site including dock, campground, toilet, shelter area on Lake Chelan	Likely Major Very high	To avoid impacts to human health and safety from flood waters and debris. Post-fire runoff may increase approximately 250% from about 60% of the fire burned at high and moderate severity. Safety Harbor had post-fire flash flooding event in June 1972 that inundated the floodplain where the campground / facilities exists today.	Remove dock and gangway to prohibit boat access to lakeshore facilities below burned area. Close Safety Harbor campground, shelter, toilet area until flood risk is reduced through vegetative recovery.
Human Life and Safety Public Health	Flooding and debris flows are expected in Safety Harbor Creek. Risk to water quality impacts from flooding of vault toilet located in floodplain at Safety Harbor	Likely moderate high	To avoid potential impacts to public health from water quality contamination from human waste at the campground area and Lake Chelan.	Pump and sanitize toilet at Safety Harbor. The pump truck/ equipment would be barged up lake to Safety Harbor
Human Life and Safety Lake Chelan boaters at Lone Fir creek.	Flooding and debris flows are expected in Safety Harbor Creek. Risk to employees and visitors from flooding at Lone Fir Creek outlet on Lake Chelan	Unlikely Minor Low	To avoid potential impacts to human life and safety from flooding. Little to no change in runoff is expected from the small area (4%) of the watershed burned at high and moderate severity. There is limited beach access below Lone Fir Creek outlet on Lake Chelan.	Discuss potential risk in public outreach materials
Human Life and Safety Trail Access	Risk to hikers along trails routed through the inner gorge of Safety Harbor Creek on of FS Trails # 1259, 1260, 1261	Very likely Major Very high	To avoid impacts to human life and safety from flash flooding on trails and trail crossings in areas within and below moderate and high burn severity.	Trail closures
Human Life and Safety Trail Access	Risk to hikers along trails along portions of trails in high and moderate SBS: FS Trail # 1257, 1258, 1259, 1260, 1261	Possible Major high	To reduce risk to hikers from burned area hazards (stump holes, hazard trees, and rock fall hazards) in areas within and below moderate and high burn severity.	Trail closures

Critical Value at Risk	Description of Threat	Probability Magnitude Risk	Rationale for Emergency Management Actions	Risk Reduction Treatments/ Management Actions
Property Safety Harbor develop recreation site	Damage to campground, shelter, vault toilet, gangway and dock are expected from increased flood flows, debris on the alluvial fan	Likely Major Very high	To reduce damage to developed recreation site infrastructure	Install wing wall deflector to protect toilet and shelter. Close campground from use on floodplain. Remove dock and gangway to protect infrastructure from flood damage. Move picnic tables out of inundation zone.
Property Road Infrastructure	Damage to FS Roads 8200000, and 82001060 from loss of water control on roads	Possible moderate Intermediate	Imminent hazards to the roads system vary from minor sloughing and culvert blockage to partial or total loss of road template.	Both roads are at or near the top of a ridge and both were utilized during suppression efforts. Both are subject to treatment by Fire Suppression Repair and no BAER treatments are recommended.
Property Trail Infrastructure	Damage to FS Trails # 1259, 1260, 1261 from loss of water control on trails	Very Likely moderate high	Trail segments with high erosional hazard were susceptible to accelerated erosion pre-fire, therefore trails within high and moderate burn severity, are prone to increased post-fire runoff, concentration of flow, and erosion of the trail surface.	Drainage structures will be installed along 9 miles of trail to control runoff and avoid, minimize and mitigate damage to the trail bed and downslope hillslopes
Natural Resources Soil Productivity	<p>Approximately 60% of the fire area is burned at high and moderate soil burn severity posing a widespread threat to soil productivity.</p> <p>The extent and degree of changes is unknown. Loss of productivity due to erosion is considered to be long-term but recovery of hill-slope stability is likely to occur within 3-5 years following the fire.</p>	Very Likely Major Very high	Hillslope treatments are limited due to timing and topographic limitations, therefore treatments to control water on road and trail infrastructure in areas of high and moderate soil burn severity will help to avoid further degradation to soil productivity	Road and trail drainage treatments are proposed to control the increase in runoff and avoid erosion of road and trail bed and sedimentation into streams

Critical Value at Risk	Description of Threat	Probability Magnitude Risk	Rationale for Emergency Management Actions	Risk Reduction Treatments/ Management Actions
<p>Natural Resources Hydrologic Function</p>	<p>Risk of impacts to hydrologic function from increased runoff and erosion.</p> <p>Approximately 60% of the watershed is burned at high and moderate soil burn severity posing a widespread threat to hydrologic function with lasting impacts to hydrologic response,</p>	<p>Very Likely Major Very high</p>	<p>Hillslope treatments are limited due to timing and topographic limitations, therefore treatments to control water on road and trail infrastructure in areas of high and moderate soil burn severity will help to avoid further degradation to hydrologic function.</p>	<p>Road and trail drainage treatments are proposed to control the increase in runoff and avoid erosion of road and trail bed and sedimentation into streams</p>
<p>Natural Resources Riparian Function</p>	<p>Flooding and debris flows are expected in Safety Harbor Creek. Channel widening or incision may occur resulting in degradation to riparian areas from increased flows, channel erosion and loss of riparian vegetation.</p>	<p>Very Likely Major Very high</p>	<p>Hillslope treatments are limited due to timing and topographic limitations, therefore treatments to control water on road and trail infrastructure in areas of high and moderate soil burn severity will help to avoid further degradation to riparian function.</p>	<p>Road and trail drainage treatments are proposed to control the increase in runoff and avoid erosion of road and trail bed and sedimentation into streams</p>
<p>Natural Resources MIS, R6 Sensitive Species Habitat</p>	<p>Threats to the landlocked kokanee salmon in Safety Harbor Creek, Lone Fir Creek and Lake Chelan.</p> <p>Region 6 Sensitive Species Pygmy whitefish (Lake Chelan) and Westslope cutthroat trout.</p>	<p>Very Likely Minor Low</p>	<p>Hillslope treatments are limited due to timing and topographic limitations, therefore treatments to control water on road and trail infrastructure in areas of high and moderate soil burn severity will help to avoid further degradation to riparian function and aquatic habitat.</p>	<p>Natural recovery of watershed conditions</p>
<p>Natural Resources Native or naturalized plant communities.</p>	<p>Risk to forested native or naturalized vegetative communities due to significant tree mortality, where natural regeneration is delayed to the loss of the canopy</p>	<p>Likely moderate high</p>	<p>There are populations of Diffuse Knapweed (Class B noxious weed) along the travel routes in the burn area. Nearby infestations of knapweed were likely to move into the burned area, due to the wind-blown dispersal nature of the seed and the inability of the existing native seed bank to offer natural competition.</p>	<p>Early Detection Rapid Response treatments for invasive species</p>

Critical Value at Risk	Description of Threat	Probability Magnitude Risk	Rationale for Emergency Management Actions	Risk Reduction Treatments/ Management Actions
Natural Resources Native or naturalized plant communities.	Risk to Whitebark pine recovery	Likely Minor Very Low	Whitebark pine burned within this fire perimeter. The natural seed production of the pine and burn intervals may or may not line up to provide seed production post fire.	Natural recovery of watershed and vegetative conditions, some restoration planting may occur through restoration effort.
Natural Resources TES Wildlife	Threats to wide ranging carnivore critical habitat from vegetation loss, degraded soil productivity and hydrologic and riparian function.	Likely Minor Very Low	Natural recovery of watershed and vegetative conditions, some restoration planting may occur through restoration effort.	Natural recovery of watershed and vegetative conditions, some restoration planting may occur through restoration efforts