

BAER SURVEY - WILDLIFE SPECIALIST REPORT

Resource Specialty: Wildlife
Fire Name: Bagley Fire
Month and Year: September 2012
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Northern Spotted owl

I. Potential Values at Risk

Overview

The Bagley Fire occurred within the Lower McCloud, Iron Canyon and Squaw Valley Creek watersheds within the Southern Cascade Bioregion in the southeast portion of the Shasta-Trinity National Forest. The fire area is located 4 miles west of Big Bend, California. The Bagley fire started during a lightning storm on August 18, 2012 <http://inciweb.org/incident/3188/> and burned with varying intensities on approximately 46,011 acres (32,208 acres on the Shasta-Trinity NF and 13,803 acres on private lands). Elevations within the fire perimeter range from 1600 to 5300 feet. The Bagley fire is located in a late successional reserve (RC-335) and northern spotted owl critical habitat (CA 29, subunit 77).

The dominant vegetation types consist of predominantly conifer stands intermixed with a small proportion of hardwoods, as well as typical vegetation expected for a montane region in the Klamath Mountains. Species composition tends to follow elevation and temperature gradients ranging from Douglas fir/white fir forests at the highest, coldest areas to ponderosa/gray pine/chaparral in the lowest hottest areas (Lower McCloud Watershed Analysis, 2010).

Threatened, Endangered and Sensitive Terrestrial Wildlife Species

The following list includes only those species for which habitat exists within the fire perimeter: Habitat exists for two federally listed species (The species list was downloaded from FWS – Arcata Office website <http://arcata.fws.gov>, document number: 989311290-113432 is included in Appendix A). Federally listed aquatic species including fish and amphibians are addressed in the BAER fisheries report).

Forest Service Sensitive terrestrial species were derived from the most recent Regional Forester's Sensitive Species list for Region 5 (October 2007). Aquatic species including fish, cascade frog (*Rana cascadae*), foothill yellow-legged frog (*Rana boylei*) and Northwestern pond turtle (*Clemmys marmorata marmorata*) are discussed in the BAER fisheries report. The Bagley fire is not within the range of the southern torrent salamander (*Rhyacotriton variegatus*) and the Pressley hesperian snail (*Vespericola pressleyi*) species that are listed as sensitive for the Shasta-Trinity National Forest.

Forest Service Sensitive Terrestrial Species (TES)

Federally listed as *Threatened*

- Northern spotted owl (*Strix occidentalis caurina*) and northern spotted owl critical habitat
- Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)

Forest Service Sensitive

Mammals

- Pacific fisher (*Martes pennanti pacifica*)
- American marten (*Martes americana*)
- California wolverine (*Gulo gulo luteus*)
- Pallid bat (*Antrozous pallidus*)
- Townsend's big-eared bat (*Corynorhinus townsendii*)
- Western red bat (*Lasiurus blossevillii*)

Birds

- Northern goshawk (*Accipiter gentilis*)
- Bald eagle (*Haliaeetus leucocephalus*)
- willow flycatcher (*Empidonax traillii*)

Amphibians

- Shasta salamander (*Hydromantes shastae*)

Invertebrates

- Shasta sideband snail (*Monadenia troglodytes troglodytes*)
- Wintu sideband snail (*Monadenia troglodytes wintu*)
- Shasta chaparral snail (*Trilobopsis roperi*)
- Tehama chaparral snail (*Trilobopsis tehamana*)
- Pressley hesperian snail (*Vespericola pressleyi*)
- Shasta hesperian snail (*Vespericola Shasta*)

II. Resource Condition Assessment

A. Resource Setting

The Bagley fire impacted suitable habitat for the species listed above. Because these fires burned within a Roadless area and a late successional reserve (RC-335 Iron Canyon LSR), recent historical surveys are limited and consequently very little baseline presence/absence data exists for these species. All the species listed above and/or potential habitat for these species is assumed to occur within the perimeter of the Bagley fire. The northern spotted owl, northern goshawk, bald eagle, willow flycatcher, special status bat species, and terrestrial mollusks were detected during the focused studies in 2008-2009 conducted within the project vicinity of the McCloud-Pit FERC (Federal Energy Regulatory Commission) relicensing project. <http://www.eurekasw.com/MCP/Technical%20Memos/Forms/AllItems.aspx>

B. Findings

1. Resource Condition Resulting from the Fire

The burned area reflectance classification (BARC) and field reconnaissance rated the fire severity as 11% high, 19% moderate, 48% low and 22% very low. Forested areas with higher canopy closure burned with less severity, resulting in “pockets” where the canopy is opened up but the surrounding stand is relatively intact (Fig 1). In general, the Bagley fire tended to burn in a mosaic pattern that left pockets of more severely burned areas within the areas that had been drier, more sparsely forested and brushy. The fire burned high in the center of the fire perimeter in the Happy hunting grounds vicinity.



Figure1. Mosaic burn on the Bagley Fire

Forested areas where fire severity was high and burn-out activities were conducted tended to burn much hotter, and consequently resulted in the destruction of the entire forest canopy (Figure 2).



Figure 2. High Severity Burn on the Bagley Fire

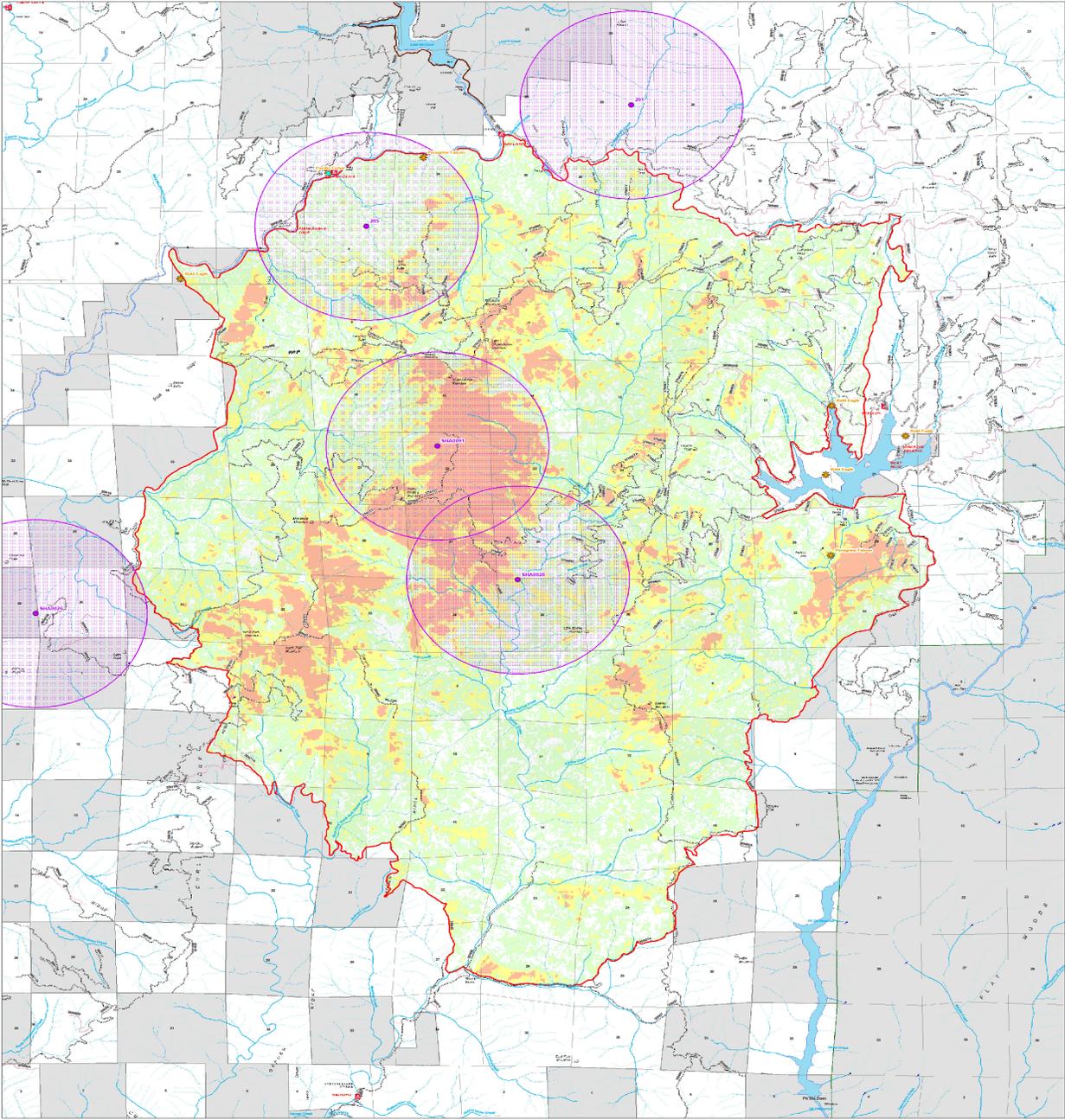
2. Consequences of the fire on values at risk

Northern Spotted owl

The fire occurred in spotted owl critical habitat (USDA 2008). A new rule for NSO critical habitat is currently being developed by the FWS and is scheduled to be final in November 2012. The Bagley fire area is expected to continue as critical habitat in the final rule.

Five historical northern spotted owl home ranges are within the Bagley fire (Figure 3). One home range (SHA-0026) was not burned in the fire. One home range (ST-201) had low burn severity and another (ST-205) had small pockets of low to high burn severity. The habitat in these three home ranges is expected to function the same as prior to the fire. Two home ranges (SHA-0091 and SHA 0028) located in the center of the fire were severely burned and the majority of the habitat was destroyed. At the end of the fire season the Forest level biologist will conduct Section 7 consultation with the Yreka Fish and Wildlife (FWS) on the fires including fire suppression and BAER activities that resulted from all the 2012 fires that occurred on the Shasta-Trinity National Forest.

Figure 3. Northern Spotted Home Ranges in the Bagley Fire



Elderberry longhorn beetle

This species is associated with elderberry (*Sambucus Mexicana*). Elderberry occurs randomly within the burned area and may be associated with wet or disturbed areas (Posey, personal communication). Where elderberry was destroyed in the burn, there will be a temporary loss of habitat, thus affecting the population of the beetle in the short term.

Forest carnivores (Pacific fisher, American marten, California wolverine)

During recent late-winter and spring months on the Shasta-Trinity National Forest, research surveys conducted by Lindstrand (2006) found thirteen Pacific fisher around Shasta Lake where vegetation types were in open second-growth conifer, hardwood-conifer, and hardwood habitats that has extensive chaparral components. Shasta Lake is in a transitional area between the southern Klamath Mountains, the southern Cascades, and the northern Central Valley. Lindstrand described vegetation as generally open- to moderate-canopied hardwood-conifer stands dominated by oaks and ponderosa pine, with occasional Douglas-fir; many of these stands had dense shrubs. Pacific fisher has been documented in the fire perimeter (CNDDDB, California Natural Diversity Database and NRIS, Natural Resource Information System).

The American marten is associated with late-seral coniferous forest characterized by closed canopies, large trees, and abundant standing and downed woody material (Zielinski et al 2001). Of particular importance is the quantity of downed debris on the forest floor as it provides protection from predators, access to the subnivean (under snow) environment for hunting and resting, and thermal protection from heat and cold (Ruggiero and Aubrey 2004).

Wolverines predominately use coniferous forest, but their significant use of non-forest alpine habitats distinguishes them from the fisher and marten (Banci et al 1994). In north coastal areas, wolverines were observed in Douglas-fir and mixed conifer habitats, and probably use red fir, lodgepole, wet meadow, and montane riparian habitats. Most sightings in this region range from 1600 to 4800 feet elevation, according to California Department of Fish and game records from 2005. Wolverines appear to select areas that are free from significant human disturbance, especially during the denning period from late winter through early spring. Wolverines that occur in forested areas use dense forest cover for travel and resting, especially in the winter.

In the burned areas of low to moderate fire severity, habitat for all three Forest carnivores is still available, particularly in areas that still retain large logs and downed woody debris. In the areas of high severity, in particular the center of the fire, habitat was totally lost.

Bats (pallid, Townsend's big eared and western red bats)

Several bats species including the three Shasta-Trinity sensitive species have been recorded in the burned area (CNDDDB, NRIS). Depending on the bat species a variety of habitats are used. This includes caves, conifers, cottonwoods, bridges and mines. In areas of high burn severity habitats were probably lost. In low and moderate severity burns habitat will still be used. In

particular, the fire may have loosened the bark on trees that were partially burned and could provide additional bat roosting habitat.

Northern Goshawk

Goshawks have been observed (CNDDDB) in the perimeter of the Bagley fire although there are no recorded nests sites. Goshawks in northern California prefer mature and old-growth conifer forests that have relatively dense canopy closures, have usually little understory, and are in close proximity to riparian corridors (Ziener et al 1990). Openings may increase nest access, serve as travel corridors (Spieser and Bosakowski 1987), support open country prey (Shuster 1980) or reduce flight barriers to fledglings (Hall 1993). In the burned areas of low to moderate fire severity, habitat for goshawks is still available. In the areas of high severity, in particular the center of the fire, habitat was lost.

Bald Eagle

There are documented eagle nests (CNDDDB) around Iron Canyon Reservoir within the fire perimeter and at the McCloud Reservoir just north of the fire perimeter. Field reconnaissance revealed that the nest areas were not burned and are still intact. Additionally, a bald eagle was observed by BAER team members on September 15th, 2012. Bald eagles were minimally affected by the fire and/or fire suppression activities.

Willow flycatcher

Willow flycatchers prefers moist, shrubby areas, often with standing or running water. In California habitat is “strikingly restricted to thickets of willows, whether along streams in broad valleys, in canyon bottoms, around mountain side seepages, or at the margins of ponds and lakes (Grinnell and Miller 1944).” Cottonwood clumps may also be important. It is unknown how the fire affected willow habitat. In areas of high severity where willow habitat was lost this may cause a temporary loss of individuals.

Shasta salamander

The Shasta salamander is associated with limestone formations in Shasta County. Limestone formations occur throughout the Bagley fire. The nearest Shasta salamander detections are at the McCloud Reservoir just north of the fire perimeter. Shasta salamanders emerge from the limestone formations into the ground vegetation and leaf litter during the wet conditions in the spring and fall. Ground vegetation in limestone areas throughout the fire were burned at varying fire intensities. Some of the suitable habitat will have a temporary loss of thermal cover due to the loss of shrubs and herbaceous vegetation in the area. This may cause a temporary displacement of individuals.

Terrestrial snails

All five sensitive land snails are known to occur in the Bagley fire area (CNDDDB). These species occur in leaf litter, downed logs, and among the ground vegetation. Areas in low, moderate and high severity burns where ground vegetation was burned and fire suppression activities

occurred would impact habitat. Some of the suitable habitat will have a temporary loss of cover due to the loss of shrubs and herbaceous vegetation in the area. This may cause a temporary displacement of individuals.

Early seral wildlife species

In general, remaining habitat will consist of openings of early seral vegetation with available cover within functional distances. In areas that burned with particular severity, mortality or injury may have occurred. However, it is unlikely that any detrimental, population-level effects occurred as a result of these fires. The burned areas are already showing signs of use by multiple species. During field visits, sightings were made of the standard groups of species generally found within burned areas post-fire including various songbirds, quail, deer, black bear and western fence lizards.

Riparian

The creeks and riparian areas within the burned areas have the potential for increased debris flow, erosion and sedimentation as a result of the fire burning in adjacent hillsides during the rainy season. The increased debris flow may impact riparian vegetation that could affect habitat for next year's neotropical migratory birds' nesting season. However, field reviews have indicated that not all riparian vegetation in the low and moderately burned areas was destroyed. This will aid in the recovery of the riparian community and alleviate impacts from a loss of cover.

Snag Dependent Species

There is a general preponderance of snags throughout much of the burned area. Therefore, removal of snags within safety zones for trail and creek rehabilitation work is not a concern for species that rely on snag habitat. In addition, trees that were not immediately burned and killed, may have been exposed to enough heat, that damage to the root systems and/or cambium layer was sufficient to cause eventual mortality. This snag recruitment will likely occur over multiple seasons and will ensure an abundance of future snags.

III. Emergency Determination

No rehabilitation treatment emergency exists pertaining to the Federally listed or Forest Service Sensitive species or their habitats described above.

IV. Treatments to Mitigate the Emergency

Recommended treatments based on assessments by geologists, hydrologists and soil scientists for the area are sufficient to the biological resources described above. Removal of snags within safety zones for trail and creek rehabilitation work is not a concern for the TES species present in the area.

Long term recovery to improve fire damaged lands that accelerate habitat recovery is recommended and should be pursued after BAER emergency treatments are complete. An example of habitat restoration is to plant oaks (acorns) within the fire suppression disturbed areas.

V. References

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**Listed/Proposed Threatened and Endangered Species for
the Shasta-Trinity National Forest (SHASTA/TRINITY) Administrative
Unit (Candidates Included)**

September 17, 2012

Document number: 989311290-113432

KEY:

- (PE) Proposed Endangered Proposed in the Federal Register as being in danger of extinction
 (PT) Proposed Threatened Proposed as likely to become endangered within the foreseeable future
 (E) Endangered Listed in the Federal Register as being in danger of extinction
 (T) Threatened Listed as likely to become endangered within the foreseeable future
 (C) Candidate Candidate which may become a proposed species Habitat Y = Designated, P = Proposed, N = None Designated
 * Denotes a species Listed by the National Marine Fisheries Service

Type	Scientific Name	Common Name	Category	Critical Habitat
Plants				
	<i>Arabis macdonaldiana</i>	McDonald's rock-cress	E	N
	<i>Orcuttia tenuis</i>	slender Orcutt grass	T	P
Invertebrates				
	<i>Branchinecta lynchi</i>	vernal pool fairy shrimp	T	Y
	<i>Desmocerus californicus dimorphus</i>	valley elderberry longhorn beetle	T	Y
	<i>Pacifastacus fortis</i>	Shasta crayfish	E	N
Fish				
*	<i>Acipenser medirostris</i>	green sturgeon	T	Y
	<i>Chasmistes brevirostris</i>	shortnose sucker	E	P
	<i>Deltistes luxatus</i>	Lost River sucker	E	P
	<i>Hypomesus transpacificus</i>	delta smelt	T	Y
*	<i>Oncorhynchus kisutch</i>	S. OR/N. CA coho salmon	T	Y
*	<i>Oncorhynchus mykiss</i>	Central Valley steelhead	T	Y
*	<i>Oncorhynchus mykiss</i>	Northern California steelhead	T	Y
*	<i>Oncorhynchus tshawytscha</i>	CA coastal chinook salmon	T	Y
*	<i>Oncorhynchus tshawytscha</i>	winter-run chinook salmon	E	Y
Amphibians				
	<i>Rana draytonii</i>	California red-legged frog	T	Y
Birds				
	<i>Brachyramphus marmoratus</i>	marbled murrelet	T	Y
	<i>Coccyzus americanus</i>	Western yellow-billed cuckoo	C	N
	<i>Strix occidentalis caurina</i>	northern spotted owl	T	Y
Mammals				
	<i>Martes pennanti</i>	fisher, West Coast DPS	C	N