Appendix D
Final Environmental Impact Statement
Tripod Fire Salvage Project

Wildlife

CHANGES BETWEEN DRAFT EIS AND FINAL EIS

Addition of Management direction for cavity-dependent species during post-fire salvage harvest planning and implementation.

Addition of Figure D-3, Forest letter of guidance on Post-Fire Salvage Logging

Figure D-1: Key to Bird Species Acronyms

Common Name	Scientific Name	Acronym
American pipit	*Anthus rubescens*	AMPI
American robin	*Turdus migratorius*	AMRO
Black-backed woodpecker	*Picoides arcticus*	BBWO
Brown creeper	*Certhia Americana*	BRCR
Chipping sparrow	*Spizella passerine*	CHSP
Clark's nutcracker	*Nucifraga columbiana*	CLNU
Dark-eyed junco	*Junco hyemalis*	DEJU
Downy woodpecker	*Picoides pubescens*	DOWO
Dusky flycatcher	*Empidonax oberholseri*	DUFL
Flammulated owl	*Otus flammeolus*	FLOW
Golden-crowned kinglet	*Regulus satrapa*	GCKI
Gray jay	*Perisoreus canadensis*	GRJA
Hammond's flycatcher	*Empidonax hammondii*	HAFL
Hairy woodpecker	*Picoides villosus*	HAWO
Hermit thrush	*Catharus guttatus*	HETH
Horned Lark	*Eremophilia alpestris*	HOLA
Lewis' woodpecker	*Melanerpes lewis*	LEWO
MacGillivray's warbler	*Oporornis tolmeiei*	MGWA
Mountain bluebird	*Sialia currucoides*	MOBL
Mountain chickadee	*Poecile gambeli*	MOCH
Northern flicker	*Colaptes auratus*	NOFL
Olive-sided flycatcher	*Contopus cooperi*	OSFL
Orange-crowned warbler	*Vermivora celata*	OCWA
Pine siskin	*Carduelis pinus*	PISI
Pileated woodpecker	*Dryocopus pileatus*	PIWO
Pygmy nuthatch	*Sitta pygmaea*	PYNU
Red-breasted nuthatch	*Sitta Canadensis*	RBNU
Ruby-crowned kinglet	*Regulus calendula*	RCKI
Red-naped sapsucker	*Sphyrapicus nuchalis*	RNSA
Savannah sparrow	*Passerculus sandwichensis*	SVSP
Swainson's thrush	*Catharus ustulatus*	SWTH

Common Name	Scientific Name	Acronym
Townsend's solitaire	*Myadestes townsendi*	TOSO
Townsend's warbler	*Dendroica townsendi*	TOWA
Three-toed woodpecker	*Picoides tridactylus*	TTWO
Vaux's swift	*Chaetura vauxi*	VASW
Varied thrush	*Ixoreus naevius*	VATH
Western tanager	*Piranga ludoviciana*	WETA
White-headed woodpecker	*Picoides albolarvatus*	WHWO
Williamson's sapsucker	*Sphyrapicus thyroideus*	WISA
Winter Wren	*Troglodytes troglodytes*	WIWR
Yellow-rumped warbler	*Dendroica coronata*	YRWA

Figure D-2: Broadscale trends of Management Indicator Species (MIS) for Tripod Fire area.

Species	Viability	Habitat Capability	Forest Type and Seral Stage						Unique Habitats								Conservation Measures			
			DRY			MESIC														
			OPENING	LOW DENSITY	SUCCESSION ADV.	OPENING	SINGLE LAYER	SUCCESSION ADV.	HARDWOODS	RIPARIAN/WETLAND	TALUS/SCREE	CLIFF/CAVES	MEADOW/SHRUBS	EDGE	SNAGS	LOGS	EASTSIDE SCREENS –RIPARIAN HABITAT CONSERVATION AREAS	EASTSIDE SCREENS – LSOG GUIDELINES	EASTSIDE SCREENS – SNAG/DOWNED LOG GUIDELINES	FP – WINTER RANGE S&Gs
	(A)	(B)																		
Marten	4							X			F	F	F		B	F		X	X	
Mule deer		Decline	BF	BF	BF	X	X	X	BF	F			F	X						X
Ruffed grouse			BF	BF	BF	X	X	X	BF	BF				BF		BF	X			
Barred Owl	2			F	F		X	X		BF					BF	F	X	X	X	
Pileated woodpecker	4			BF	BF		X	X							BF	F		X	X	
Lewis' Woodpecker	4		BF	BF	BF	X	X	X		BF				BF	BF	F			X	
Williamson's sapsucker	3				X			X	X	X					X	X			X	
Hairy Woodpecker	2			BF	BF		X	X							BF	F			X	
Northern flicker			BF	BF	BF	X	X	X	BF	BF				F	BF	F			X	
White-headed woodpecker	4			X	X										X	X		X	X	
Black-backed Woodpecker	3						X	X							BF	F			X	

(A) Viability: 1= Habitat is broadly distributed with little or no limits to population interactions. 2= Habitat is broadly distributed but some gaps exist. Disjunct patches generally allow species to interact as a metapopulation. 3= Habitat exists primarily as patches; some populations are isolated. 4= Habitat exists as isolated patches with limited opportunity for population interactions. Local populations may be extirpated. 5= Habitat is very scarce with little or no possibility for interactions of populations. Strong potential for extirpations. These are based on Lehmkuhl et al. 1997. Historical and Current Status of Terrestrial Species and the Effects of Proposed Alternatives. USDA Forest Service. PNW-GTR-409.

(B) Habitat Capability: trends in habitat capability based on Lehmkuhl et al. 2001. Effects of Ecosystem management alternatives on elk, mule deer and white-tailed deer. Forest Ecology and Management 153:89-104 and Wisdom et al. 2000. Source habitats for terrestrial vertebrates USDA Forest Service, PNW-GTR-485.

B = Habitat used by this species for breeding

F = Habitat used by this species for foraging

X = Habitat used by this species but no specific behavior was documented.

Figure D-3: Management guidance for cavity-dependent species during post-fire salvage harvest planning and implementation

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File Code: 1950/2620 **Date:** July 3, 2007

Route To:

Subject: Post-Fire Salvage Logging

To: District Rangers: Mark Morris, Tonasket; John Newcom , Methow

Regional Forester Amendment #2, "Revised Continuation of Interim Management Direction Establishing Riparian, Ecosystem and Wildlife Standards for Timber Sales" (6/5/96) applies to all timber sales outside of the Northwest Forest Plan area on the Methow Valley and Tonasket Ranger Districts. This letter of direction applies to the management snag habitat for cavity-dependent species in post-fire salvage logging.

The Wildlife Standards apply to all timber sales that fit the description above. One of the Wildlife Standards provides direction regarding snag management:

> ***"All sale activities (including intermediate and regeneration harvest in both even-age and uneven-age systems, and salvage) will maintain snags and green tree replacements of ≥21 inches dbh, (or whatever is the representative dbh of the overstory layer if it is less than 21 inches), at 100% potential population levels of primary cavity excavators. This should be determined using the best available science on species requirements as applied through current snag models or other documented procedures…"***

This letter documents the obligation and process to determine snag levels using the best available science, and specifically addresses new science and the management of snag habitat in post-fire salvage logging. The "percent of potential population" levels was described earlier in Thomas et al. (1979) and related to maintenance of self-sustaining populations. Thomas et al. (1979) related "population levels" to snag levels necessary to achieve or predict a "highly viable", "viable", "marginal", or "nonviable" probability of cavity nesting species. Rose et al. (2001) indicated much has been learned between 1979 and 1998 (Thomas et al. (1979) and present) that measured the assumptions of "potential population levels." They further suggested that calculating biological potential using snags used per pair of cavity excavators, accounting for unused snags, and extrapolating snag numbers based on population density is a flawed technique. However, the intent of maintaining viable populations and cavity excavators remains a valid and important concept upon which to guide management. Thus the intent of the direction provided in this letter is to provide habitat conditions in post-fire environments (snag abundance and distribution) that contribute towards the viability of primary cavity excavators and secondary cavity nesters.

The Wildlife Snag Standard states that "[p]ast management practices have greatly reduced the number of large snags and down logs in managed stands." On the Methow Valley and Tonasket ranger districts, previously managed stands often do not currently have enough large diameter snags to achieve high levels of self-sustaining cavity excavator populations. This management direction addresses these past activities while providing post-fire salvage logging opportunities.

Recent science has greatly expanded understanding of the importance of post-fire environments as providing habitat for primary cavity excavators and secondary cavity nesters (Kotliar et al. 2002, Morissette et al. 2002, Saab et al. 2002, Saab et al. 2004). In addition, recent studies have focused on the effects of post-fire salvage logging on cavity nesting bird communities (Saab and Dudley 1998, Haggard and Gaines 2001, Hutto and Gallo 2006). Finally, information on snag longevity in post-fire environments has become available (Everett et al. 1999, Russell et al. 2006). These studies have provided important information for managers to consider when making decisions about how to manage post-fire forest habitats that contribute to the viability of primary cavity excavators and cavity nesters. The key findings from these research studies include: the importance of unsalvaged post-fire forest habitat for species needing high levels of snag densities; maintenance of remnants of the burned forests within salvage harvest units; and retention of snag habitat (above what is managed for within un-burned forests) within salvage harvest units at levels that account for the lack of green tree recruitment and post-fire snag longevity.

Based on the best available science (as summarized above) the following snag management direction should be followed for post-fire salvage logging planned and implemented under the east-side screens:

1. Identify parts of the post-fire forest habitat(s) to remain un-salvaged to contribute to the viability of post-fire dependent species that require high densities of snag habitat such as the black-backed woodpecker.
2. Retain remnants of the burned forests (preferably in clumps) within salvage harvest units. The size and location of these remnants may vary by logging system and should be designed to have the greatest chance of being retained.
3. Retain an average of 4 snags/acre over 100 acres of the larger available snags. When possible, retain these snags within the burned forest remnants (see above) to enhance their longevity.

Any questions regarding the implementation of this direction should be directed to Bill Gaines, Bob Naney and Jan Flatten.

/s/ Stuart M. Woolley for
JAMES L. BOYNTON
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