C

COPPER MOUNTAIN RESORT

Final Environmental Impact Statement

Trails and Facilities Improvements

January 2006

USDA Forest Service
White River National Forest
Dillon Ranger District

Copper 3

Table IV F-3:
Determination Summary of CMR Alternative Effects on all R2 Sensitive Species Potentially Present on the WRNF (USDA Forest Service 2003a)

Common name, *Scientific name*	Alternative				
	1	2	3	4	5
Kotzebue's grass-of-Parnassus, *Parnassia kotzebuei*	NI	NI	NI	NI	NI
Harrington penstemon, *Penstemon harringtonii*	NI	NI	NI	NI	NI
De Beque phacelia, *Phacelia scopulina var. submutica*	NI	NI	NI	NI	NI
Porter feathergrass, *Ptilagrostis porteri*	NI	NI	NI	NI	NI
Ice cold buttercup, *Ranunculus karelinii*	NI	NI	NI	NI	NI
Sun-loving meadowrue, *Thalictrum heliophilum*	NI	NI	NI	NI	NI
INSECTS					
Great Basin silverspot, *Speyeria nokomis nokomis*	NI	NI	NI	NI	NI
Hudsonian emerald, *Somatochlora hudsonica*	NI	NI	NI	NI	NI
FISH					
Roundtail chub, *Gila robusta*	NI	MAII	MAII	MAII	MAII
Mountain sucker, *Catostomus platyrhynchus*	NI	MAII	MAII	MAII	MAII
Bluehead sucker, *Catostomus discobolus*	NI	MAII	MAII	MAII	MAII
Flannelmouth sucker, *Catostomus latipinnis*	NI	MAII	MAII	MAII	MAII
Colorado River cutthroat trout, *Oncorhynchus clarki pleuriticus*	NI	NI	NI	NI	NI
AMPHIBIANS					
Boreal western toad, *Bufo boreas boreas*	NI	MAII	MAII	MAII	MAII
Northern leopard frog, *Rana pipiens*	NI	NI	NI	NI	NI
BIRDS					
Northern goshawk, *Accipiter gentilis*	NI	MAII	MAII	MAII	MAII
Northern harrier, *Circus cyaneus*	NI	MAII	MAII	MAII	MAII
Ferruginous hawk, *Buteo regalis*	NI	NI	NI	NI	NI
American peregrine falcon, *Falco peregrinus anatum*	NI	NI	NI	NI	NI
White-tailed ptarmigan, *Lagopus leucurus*	NI	MAII	MAII	MAII	MAII
Greater sage grouse, *Centrocercus urophasianus*	NI	NI	NI	NI	NI
Columbian sharp-tailed grouse, *Tympanuchus phasianellus columbianus*	NI	NI	NI	NI	NI
Flammulated owl, *Otus flammeolus*	NI	NI	NI	NI	NI
Boreal owl, *Aegolius funereus*	NI	MAII	MAII	MAII	MAII
Black swift, *Cypseloides niger*	NI	NI	NI	NI	NI
Lewis' woodpecker, *Melanerpes lewis*	NI	NI	NI	NI	NI
Three-toed woodpecker, *Picoides tridactylus*	NI	MAII	MAII	MAII	MAII
Olive-sided flycatcher, *Contopus cooperi*	NI	MAII	MAII	MAII	MAII
Loggerhead shrike, *Lanius ludovicianus*	NI	NI	NI	NI	NI
Purple martin, *Progne subis*	NI	NI	NI	NI	NI
Brewer's sparrow, *Spizella breweri*	NI	NI	NI	NI	NI
Sage sparrow, *Amphispiza belli*	NI	NI	NI	NI	NI

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Determination Summary of CMR Alternative Effects on all R2 Sensitive Species Potentially Present on the WRNF (USDA Forest Service 2003a)

Common name, *Scientific name*	Alternative				
	1	2	3	4	5
MAMMALS					
Pygmy shrew, *Microsorex hoyi montanus*	NI	MAII	MAII	MAII	MAII
Fringed myotis, *Myotis thysanodes*	NI	NI	NI	NI	NI
Spotted bat, *Euderma maculatum*	NI	NI	NI	NI	NI
Townsend's big-eared bat, *Corynorhinus townsendii townsendii*	NI	NI	NI	NI	NI
American marten, *Martes americana*	NI	MAII	MAII	MAII	MAII
North American wolverine, *Gulo gulo luscus*	NI	NI	NI	NI	NI
River otter, *Lutra canadensis*	NI	MAII	MAII	MAII	MAII

Note: Other R2 species, subspecies, and types (USDA Forest Service 2003b) are not listed because they have not been found on the WRNF, they have no affinities to CMR project area habitats, the project area is outside of the species' range or elevational distribution, and alternatives 1-5 would have no impact on those species or their habitats. Species in bold are potentially present and/or are discussed in the text. Plants are listed alphabetically by scientific name after USDA Forest Service (2003a); wildlife are listed phylogenetically.

NI = No impact.

MAII = may impact individuals, but is not likely to result in a loss of viability on the planning area, nor cause a trend to federal listing or a loss of species viability rangewide.

In summary, Alternative 2 may impact individual bluehead, flannelmouth, and mountain suckers, roundtail chubs, boreal toads, northern goshawks, northern harriers, white-tailed ptarmigan, boreal owls, three-toed woodpecker, olive-sided flycatcher, pygmy shrew, American marten, and river otters, but is not likely to result in a loss of viability on the planning area, nor cause a trend to federal listing or a loss of species viability rangewide (Table IV F-3). Alternative 2 would have the greatest effects of any alternative because of greater habitat modification and additional water use. With the exception of potential pygmy shrew mortality and potential loss of construction year boreal owl, three-toed woodpecker, and olive-sided flycatcher recruitment, direct impacts to these R2 species would be confined to a small to moderate area (< 138 acres) of habitat modifications within the occupied and/or potential habitat these species. For the above species that are not present in disturbance areas or affected habitats at the time of construction or when project effects occur, reduced potential habitat availability or habitat degradation should have no discernable affect on local population viability. For those species even occasionally present in affected habitats, the additional habitat fragmentation, increased edge effects, reduced block size, reduced habitat connectivity, reduced forage/prey availability, increased human disturbance, and/or other ecological effects may displace individuals from impact areas and adjacent zones of influence and reduce local habitat effectiveness. For species with larger home ranges, project effects may influence foraging, breeding, and/or travel use of habitats beyond the PA, although such species have already adapted to these same types of disturbances on the existing ski area. The area affected by Alternative 2 contains an insignificant proportion of the total population and existing and potential range of each of the above species on the Planning Area. Although Alternative 2 would affect the most area and possibly individuals of species of all alternatives, it does not represent a viability concern or concern regarding trend to listing for any of the species across the Planning Area. The Proposed Action would have no discernable effect on the reproductive potential of affected species. Alternative 2 would have no impacts on any other R2 species (excluding those above, Table IV F-3).

highly effective, summer deer habitat. Alternatives 2-5 would have subtle beneficial and adverse effects on local mule deer use and this species will not be addressed further in this document.

Threatened, Endangered, and Proposed Species

In summary, Alternative 2 "is likely to adversely affect" the Colorado pikeminnow, bonytail chub, humpback chub, razorback sucker, and lynx or their habitats. The Proposed Action would have "no effect" on any other listed species, or designated critical habitat. Individual accounts of potential Alternative 2 impacts to those listed species considered in this document are provided below.

Uncompahgre Fritillary

With the exception of the proposed snowmaking pipeline alignment to the top of R Lift, none of the snow willow stands within the PA occur in areas that would receive any ground disturbance from the proposed action. For this and other reasons provided above, PA habitats appear to be unsuitable to support Uncompahgre fritillary. Alternative 2 (and alternatives 3-5) would have "no effect" on the Uncompahgre fritillary. This species will not be addressed further in this document.

Colorado Pikeminnow, Bonytail Chub, Humpback Chub, and Razorback Sucker

CMR currently has 381.2 acre-feet of water diversions available for snowmaking and facility services that have been approved through formal USFWS section 7 consultation (USDA Forest Service 1997, USFWS 2002). All of this water is used. Therefore, no unused diversions are available for additional use without exceeding previous consultation amounts. Under Alternative 2, an additional 306.1 acre-feet of diversions above quantities previously approved through consultation would be used for expanded snowmaking and existing and expanded water use at Solitude Station (Table III F-16). Under Alternative 2, total CMR diversions and depletions would be 687.3 and 175.7 acre-feet, respectively (Table III F-16). As a result of these additional diversions, Alternative 2 would incrementally result in adverse affects that "is likely to jeopardize" and "is likely to adversely affect" the Colorado pikeminnow, bonytail chub, humpback chub, and razorback sucker or their habitats. Mitigation is recommended that would substantially reduce Alternative 2 effects and lead to a determination of "not likely to jeopardize" the continued existence of the species and is not likely to destroy or adversely modify designated critical habitat.

Bald Eagle

For the reasons provided above, Alternative 2 (and alternatives 3-5) would have "no effect" on the bald eagle or its habitat. This species will not be analyzed further in this document.

Canada Lynx

LAU 28 Habitat Parameters

Under Alternative 2, the resulting denning and unsuitable habitat percentages in the LAU would continue to be consistent with the management thresholds recommended by Ruediger et al. (2000) and the Forest Service Plan to help preserve lynx habitat viability within the LAU.

given the low frequency of potential lynx movements across the ski area, it would appear beneficial (even under Alternative 2 [i.e., w/o the relocation of shift change and mid-shift refueling and "lunch" to CB-1]) to centrally locate the SVMS and realize the 20 percent efficiency of reduced "deadheading" spread out across the mountain, where individual snowcats now have a greater probability of interacting with a lynx. However, if that 20 percent efficiency were eventually used up for increase snowmaking-related grooming, grooming additional terrain, etc., then the hub of snowcat activity in the middle of the ski area would increase potential lynx-snowcat conflicts.

Evening dining at Solitude Station occurs within the nocturnal maintenance period for Solitude Station, but it results in additional outdoor activity associated with guests and additional staff walking between the lift and the facility twice a night. This facility occurs relatively close (~ 2,720 feet) to the edge of diurnal security habitat on the east side of the ski area. Associated activity would be largely within the activity zone associated with the adjacent SVMS, but the activity periods associated with each facility would be mutually exclusive. Continued dinner use of this facility as currently authorized (i.e., within defined seasons, operating hours, a maximum number of people, etc.) should have no measurable effect on lynx habitat use.

In summary, while increased effects of nocturnal, CMR operations would not individually be considered substantive, the collective effects of existing and additional proposed nocturnal activities under Alternative 2 approach a threshold that could impair the ability of some lynx to cross the ski area and adversely affect landscape connectivity. These impacts could be reduced to near existing levels with the implementation of mitigation measures, as proposed under alternatives 3-5. However, as currently proposed, Alternative 2 could degrade existing landscape connectivity.

Resolution Pod and Powerline Glades

Upgrading and use of the Resolution Pod and *Powerline Glades* under Alternative 2 could also individually and collectively (i.e., with existing ski area use, surrounding winter use in the LAU, and that associated with the Tucker Lift) impair landscape connectivity by degrading diurnal security habitat that lynx would be expected to use to cross the ski area and to move east-west (i.e., across Highway 91) through the Tenmile LAU. Effects of additional snowmaking and grooming activities, conceptually discussed above for the ski area, are applicable to the two trails proposed for snowmaking in the Resolution Pod and the development of the *North Cabin Chute* trail. However, of primary concern is that existing and increased use of the *Powerline Glades* area, additional development of the *North Cabin Chute* trail, and additional out-of-bounds use between these areas that could eliminate the effectiveness of this diurnal security block during the ski season. This impact could be reduced to below existing levels with the implementation of mitigation measures, as proposed under alternatives 3-5. However, as currently proposed, upgrading and use of the Resolution Pod and *Powerline Glades* under Alternative 2 could have degrading effects on landscape connectivity.

Alternative 2 Lynx Determination

Alternative 2 is "likely to adversely affect" the Canada lynx as a result of impaired landscape connectivity through the ski area during the ski season resulting from (1) the Tucker Lift and its ancillary facilities and (2) development and use of the Resolution Pod and *Powerline Glades*. In