Attachment C - Mexican spotted owl (MSO) Supplemental Comments

The Forest Service must comply with the ESA, its Forest Plan, and the 2012 Recovery Plan to provide for the recovery of MSO. This includes limiting activities that impact critical habitat, Protected Activity Centers (PACs), and recovery habitat. The FS must consult with the U.S. FWS on the impacts of the plan/project on MSO, and these consultation documents must be provided to the public during the NEPA process on the agency's website for this project/plan.

According to the 2012 Recovery Plan for Mexican Spotted Owl (MSO):

> Construction of roads and trails can indirectly affect Mexcian spotted owls through loss and fragmentation of habitat (we discuss the effects of increased noise potential, human access, and direct fatality in Part II.H.3.e.*iii* below). In general, habitat loss to road construction is minor on a rangewide scale when compared to more massive habitat losses observed from other causes (e.g., wildland fires, past harvest practices); however, on a local scale, roads and trails through PACs may fragment habitat continuity, alter natural movement patterns, and increase disturbance to resident owls. Roads in nest/roost, forested, and riparian recovery habitat may also result in loss of habitat components (e.g., large logs, large snags, hardwoods) as people access these areas for fuelwood cutting, and in sensitive riparian areas, roads and trail can inhibit hydrological processes that affect proper functioning ecological conditions.

2012 Recovery Plan, p. 45.

> Recreational activities may affect owls directly through disturbances caused by human activity (e.g., hiking, shooting, and OHV use at nesting, roosting, or foraging sites; discussed under other sections of this five-factor analysis) or indirectly through alteration of habitats such as damage to vegetation, soil compaction, illegal trail creation, and increased risk of wildland fires. Whether managed or unmanaged (i.e., user-created), development of new recreational facilities (e.g., trailheads, and OHV and mountain bike trails) and expansion of existing facilities (e.g., campgrounds and hiking trails) may alter owl habitat.

Id., p. 47.

> Depending on the extent, intensity, and duration, recreational disturbance may have negative impacts on owl habitat. For example, the number of people who drive OHVs off road has increased over 109% in the U.S. since completing the 1995 Recovery Plan (Cordell 2004). In addition, from 1997 to 2001, the number of OHVs in use increased by almost 40%, OHV drivers increased by 36%, and OHV driving hours increased by 50% (68 FR 19975; April 23, 2003). The significant increase in OHV use, OHV-associated impacts to natural resources, and a desire to provide better OHV management have precipitated development of Travel Management Plans for all NFS lands as well as

implementation of a 2009 Arizona OHV Law (SB1167). These actions illustrate that both Federal and state agencies have identified OHV recreational activity as a concern.

Id., pp. 47-48

The 2012 Recovery Plan discusses the significant impacts that noise has on MSO.

> Infrequent, noise-producing activities are generally assumed to have relatively little long-term impact on spotted owls. However, owls will react to noise disturbances by changing behavior and/or flushing from their perches (Delaney et al. 1999a; Swarthout and Steidl 2001, 2003). These behavioral responses may alter nesting and roosting activities, thus increasing vulnerability to predators and heat-related stress.
>
> Variables such as distance to and frequency of a noise disturbance, habitat type, topography, and sound source may influence spotted owl responses (Delaney and Grubb 2004). For example, noises close to nests are likely to be more disruptive than those far from nests (Delaney et al. 1999a) and noise disturbances close (96 m [315 ft]) to owl nests may have affected prey delivery rates Delaney et al. (1999b).
>
> Also with respect to distance and noise levels, Delaney et al. (1999a) determined that the proportion of owls flushing was negatively related to distance (owls flushed more often to closer sounds) and positively related to noise level (owls flushed more often to louder sounds). Pater et al. (2009) quantified this in part by determining that noises ≥80 dBO (i.e., decibels weighted for middle sound frequencies where owl hearing is the most sensitive), had a greater than 0.60 probability of causing an owl to flush). This noise level (80 dBO) is roughly equivalent to 69 dBA (i.e., decibels weighted for human hearing) or approximately twice as loud as ordinary conversation.
>
> The origin or type of noise may also be a factor in disturbing owls. Mexican spotted owls in forested environments reacted more to chainsaws (operated out of sight of owls) than to the sound of helicopters at the same distance (Delaney et al. 1999a). While little research is available comparing the relative impact of various noise types, it is likely that persistent noises are more disruptive than infrequent disturbances, and intensity of disturbance is proportional to noise level (i.e., sound volume).
>
> There is also the potential for noise pollution (i.e., consistent noise-causing activities as opposed to the sporadic noise disturbances discussed above) to impact spotted owl nocturnal breeding and foraging habits. Because owls are active at night when it is difficult or impossible to see other owls, audio communication is a critical component of the owl's social system (Frid and Dill 2002; e.g., territorial defense, pair bonding and maintenance, feeding nestlings, and post-fledging activities). Further, owls depend heavily on sound to locate and capture prey in near darkness (Payne 1971, Martin 1986, Norberg 1987).

> No studies have been conducted on the influence of habitat type (canyon vs. forest) on noise disturbance to owls. While both forest- and canyon-dwelling owls respond to human presence, potentially disruptive interactions between humans and owls may be more likely in canyons because canyons can amplify noises (especially in caves) and provide limited escape routes for owls. In addition, the number of sites in canyons that afford spotted owls adequate thermal protection for nesting and roosting may be more limited than in forested environments. Finally, canyons may lack visual barriers between owls and noise sources that are common in dense forests, and this also may influence owl responses.
>
> Noise impacts are most likely to occur at the level of individual owls and/or PACs, and they may be important to small isolated populations. We believe that disturbance should be avoided when practicable during the nesting season (see noise disturbance recommendation in Appendix C).

Id., pp. 55-56.

The Forest Service must implement the 2012 Recovery Plan's recovery recommendations to minimize recreation disturbance:

6.7. Minimize recreation disturbance in PACs.

> 6.7.1. Any construction within PACs during the non-breeding season should be considered on a case-specific basis. Modifications to existing facilities pertaining to public health, safety, and routine maintenance are excepted; however, when implementing such activities, those conducting the work should use all measures possible to avoid potential effects on owls.
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> 6.7.2. In areas of owl occupancy, assess the impacts of currently allowed (both permitted and non-permitted) recreational activities and institute limitations as described in section Appendix C.
>
> 6.7.3. Seasonal closures of specifically designated recreational activities should be considered where disturbance to breeding owls seems likely.
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> 6.7.4. Conduct education through signing, interpretation events, access permitting, or other information sources to inform the public of proper and legal behaviors when encountering owls.

Id., p. 76. Further,

6.9. Implement actions to minimize noise disturbance within PACs during the breeding season (1 Mar - 31 Aug). If non-breeding is inferred or confirmed during approved- protocol

surveys in a PAC during the breeding season, restrictions on noise disturbances should be relaxed depending on the nature and extent of the proposed disturbance.

> 6.9.1. Managers should, on a case-specific basis, assess the potential for noise disturbance to nesting owls.
>
> 6.9.2. Breeding-season restrictions should be considered if noise levels are estimated to exceed 69 dBA (A-weighted noise level) (~80 dBO [owl-weighted noise level, Delaney et al. 1999a]) consistently (i.e., >twice/hour) or for an extended period of time (>1 hr) within 50 m (165 ft) of nesting sites (if known) or within entire PAC if nesting sites are not known.

Id., p. 77.

The Forest Service should follow the management recommendations in the 2012 Recovery Plan (see Appendix C of the Plan), for PACs, recovery habitat, and other habitats. For roads/trails and motorized recreation, these include but are not limited to:

> PACs are established around owl sites (defined below) and are intended to protect and maintain occupied owl habitat. Given our lack of experience and demonstrated expertise in purposely creating the forest structure used by owls, the recommendations for PACs focus on minimizing management. We recognize that these areas cannot be set aside and protected indefinitely, but we regard this as an appropriate interim strategy pending recovery of the species and development of a long-term management plan.

Id., p. 257.

> Road or trail maintenance, repair, and building in PACs should be undertaken during the non-breeding season (1 Sep - 28 Feb) to minimize disturbance to owls unless non-breeding is inferred or confirmed that year per the accepted survey protocol (Appendix D). **We recommend that no new roads or construction occur in PACs.**

Id., p. 261 (Emphasis added).

> Avoid construction activities (e.g., road or trail building) in recovery riparian areas except on a case-specific basis where pressing management needs can be demonstrated.

Id., p. 271.

The Forest Service must also implement the 2012 Recovery Plan's Guidelines related to timber management, noise and recreation disturbance. See, id., pp. 293-296.

The Forest Service must also analyze the impacts of climate change on MSO, as discussed in the 2012 Recovery Plan.