

Wilderness & Wildlife on the White River NF

The United States has set aside only 5% of its land in strict protection, i.e. congressionally designated Wilderness, and another 5% in more relaxed protection categories across all ownerships. The scientific community has since concluded that the levels of protection in all forested ecoregions across the United States are *far* too low to maintain many species at risk of extinction. Nation-wide, forests provide habitat for nearly 1/3 of all endangered and threatened species. Additionally, about 1/4 of more than 1,400 forest associations identified by The Nature Conservancy are considered “critically imperiled” or “imperiled.” Many of these species and associations make use of relatively intact forest areas free of disturbances introduced through road access (e.g. logging, mining, poaching and over collecting).”

Effect of Roads on Wildlife:

Roads may act directly or indirectly on wildlife population viability and/or ecosystem processes as follows:

- dispersal bottlenecks for propagules of sensitive species, thereby fragmenting populations
- dispersal conduits for invasive species
- impediments to hydrological properties and processes, particularly changes in drainage patterns and stream morphology
- degradation of fish habitat
- mass wasting events and slope instability
- poaching, and illegal over-hunting
- collisions with wildlife
- alteration of fire patterns
- pollution of soil, water and air
- erosion, sedimentation of streams, edge effects, over-collecting of rare plants and animals, and the elimination of snags for firewood or road safety



In forested ecosystems, roads result in cumulative impacts, which when combined with other anthropogenic disturbances, reduce habitat suitability for many species. This is well documented across a range of taxa from small mammals and carabid beetles to cervids, large carnivores, forest interior species, and reptiles.

There is a strong consensus within the scientific community that roads are the single greatest impact to the movement of sensitive species and that roads cause more effects and have a greater cumulative effect than vehicles themselves. While collectively only two percent of the lower-48 states are covered by roads, the ecological effect is much larger than the area cleared for roads. The “bottleneck” effect of roads on wildlife includes the following examples:

- Road densities of 1 mi/mi² has been documented as decreasing habitat effectiveness for elk by 50% compared to roadless watersheds — as road density increased to 6 mi/mi², elk habitat use fell to zero
- Mountain lions are concentrated mostly in areas of low road density — road avoidance was documented for paved and improved dirt roads — studies also show lion density is lowest when road densities exceed 0.4 mi/mi²

- Black bears cannot maintain viable populations when road density exceeds 0.8 mi/mi² due to poaching pressure
- There are many times more bears in low than high road-density areas
- In the Rocky Mountains of southeastern Wyoming, roads added to forest fragmentation more than clearcuts by dissecting large patches into smaller pieces and by converting forest interior habitat into edge habitat — edge habitat created by roads was 1.5-2 times more than that created by clearcuts alone

Ecological Attributes of Wilderness Areas:

Wilderness Areas serve many inter-related purposes for fish and wildlife that live within and around the boundaries delineated by Congress, such as:

- source areas for species distributed as metapopulations that are otherwise isolated from each other by the effects of habitat fragmentation
- refugia for endemic species and those species with restricted distributions or limited dispersal capabilities
- pockets of old-growth forests in areas where such habitats are rare
- areas of globally imperiled plant communities
- propagules for taxa important in forest recovery such as various forbs, lichens, and mycorrhizal fungi (a critical symbiotic partner for many plant species) are typically present at reduced levels or not at all in intensively managed forests
- wintering habitat for resident birds
- microclimatic conditions for amphibians and mollusks
- dispersal “stepping stones” for migratory species
- thermal, hiding, and foraging cover for ungulates
- aquatic strongholds for fish broad suite of habitat types and elevation bands, including many ecologically important habitats

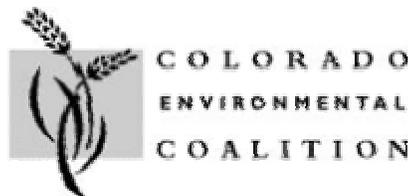


By encouraging Congress to designate more wildernesses, we can take steps to protect the relatively small amount of land needed by species listed as threatened or endangered — and prevent them having to be relisted after successfully rebounding.

www.WhiteRiverWild.org



THE WILDERNESS SOCIETY



SOUTHERN ROCKIES
ECOSYSTEM PROJECT