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Wildfires and bark beetles create important wildlife habitat and enhance biodiversity

Mixed-intensity wildfires have been occurring for over 300 million years in forests, and today we have a deficit of fire in most forests, due to fire suppression.[1] Our forests have a long evolutionary history with both fire and native bark beetles and wood-boring beetles, and many wildlife species have evolved to depend on small and large patches dead trees, known as "snag forest habitat", for their survival. Hundreds of species of native insects depend on dead trees for food and reproduction. Woodpecker species rely on the larvae of these insects for their food, and they need dead trees to make their homes, since dead trees are softer than live trees and it's easier for the woodpeckers to excavate nest cavities—the same cavities that are later used by generations of songbirds and small mammals to raise their young. In snag forest habitat, a rich understory of naturally-regenerating trees, flowering shrubs, and wildflowers creates excellent habitat for insects, small mammals, deer and elk, wolves and bears, raptors, and shrub-nesting birds. For these reasons, snag forest habitat is comparable to old-growth forest in terms of native biodiversity and wildlife abundance, and forests naturally regenerate vigorously after wildfires and other natural fluctuations.[2] While even the largest of current forest fires are comprised primarily of lower-intensity areas, where most trees survive and are only lightly scorched,[3] it is important to understand that, in the 15% to 30% or so of a given large fire where snag forest habitat is created, these areas are ecological treasures.

Endnotes

[1] Doerr, S.H., and C. Santin. 2016 Global trends in wildfire and its impacts: perceptions versus realities in a changing world. Philisophical Transactions of the Royal Society B 371: Article 20150345.

[2] (a) see hundreds of studies summarized in: DellaSala, D.A., C.T. Hanson. 2015. The ecological importance of mixed-severity fires: nature's phoenix. Elsevier Inc.,Waltham, MA; and (b) Hanson, C.T., and T.Y. Chi. 2021. Impact of postfire management are unjustified in spotted owl habitat. Frontiers in Ecology and Evolution 9: Article 596282.

[3] (a) DellaSala, D.A., C.T. Hanson. 2015. The ecological importance of mixed-severity fires: nature's phoenix. Elsevier Inc.,Waltham, MA; and (b) Doerr, S.H., and C. Santin. 2016 Global trends in wildfire and its impacts: perceptions versus realities in a changing world. Philisophical Transactions of the Royal Society B 371: Article 20150345.