**Opportunities for shared stewardship after fire in the Carlton Ridge Research Natural Area, western Montana**
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 **Abstract:**The Research Natural Area (RNA) program is one of the oldest formal programs in the U.S. Forest Service (USFS). Since 1927, RNAs have been systematically established on the national forests and grasslands to represent a wide range of vegetation types in a national network of protected reference sites. These sites are designated in perpetuity for research, education, and the conservation of biological diversity. To date, 533 RNAs have been designated across the nine USFS regions, protecting approximately 600,000 acres. In the USFS Northern Region's Lolo National Forest (LNF), the Carlton Ridge RNA was established in western Montana in 1987 to protect a unique, extensive stand of alpine larch (Larix lyallii). This open, park-like forest community occurs at elevations from 7900 to over 8400 feet, on a subalpine ridge that escaped glaciation and has deep, well-developed soils. Such an extensive deep soil setting has not been documented elsewhere for this tree species. In 2017, the Lolo Peak wildfire burned much of the RNA and surrounding area, creating a complex burn mosaic in which some areas burned severely, killing all alpine larch trees, and others experienced little or no fire. This burn pattern has created opportunities for research and monitoring of post-fire response of this unique vegetation type, which will provide important findings to LNF resource managers and the scientific community. Alpine larch has also been identified as a tree species especially vulnerable to climate change and this burn may create opportunities for monitoring alpine larch populations after fire into the new climate future. The USFS Rocky Mountain Research Station (RMRS), along with the LNF and Northern Regional Office, is collaborating with the non-profit Friends of Lolo Peak (FOLP) to develop a citizen science research and monitoring project that will document fire effects and post-disturbance ecosystem response in this unique plant community. In particular, conifer recruitment will be monitored along biophysical, elevational and fire severity gradients. LNF and RMRS personnel are co-developing the sample design and associated site selection, and FOLP volunteers will work with RMRS on data collection. While many examples of the USFS's policy of shared stewardship preempt wildfire, this is an excellent demonstration of how shared stewardship following fire can foster collaborative conservation and research opportunities in USFS RNAs, and lead to novel methods for management of this high elevation species.