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Bristlecone Fire History and Stand Dynamics at Mount Washington, Nevada

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We present the design and preliminary results of a fire history and stand dynamics study in a Great Basin bristlecone pine ecosystem at Mount Washington, Nevada. This forest experienced a high severity fire in fall 2000 that enabled us to directly examine its impacts on a subalpine community where such events are relatively rare. The research plan includes mapping fire boundaries via ground reconnaissance and remote sensing, measuring vegetation structure at randomly located plots, analyzing tree growth patterns by extracting increment cores from trees at the plots, and reconstructing fire history by sampling fire scars from bristlecone pines. Preliminary results were derived from the completion of fire boundary mapping, locating 62 bristlecone pines with visible scars, of which about 40 showed evidence of fire scars. Vegetation measurements were completed at twenty 0.1-ha plots, where a total of 314 trees were mapped by species. Plot data also showed evidence of a greater occurrence of bristlecone pine regeneration in areas affected by the 2000 high severity fire than in unaffected areas. Future steps will include the extraction of increment cores for forest stand age determination and possibly of larger samples from fire-scarred trees for fire history reconstruction. These preliminary results indicate that severe fires in bristlecone pine ecosystems are potentially facilitating regeneration of this unique Great Basin species.