Six Years of Watershed Restoration in Lightning Creek

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Lightning Creek drains a 122 square mile watershed in the Cabinet Mountains along the Idaho/Montana border. It regularly receives the highest amount of precipitation in the state of Idaho, with a recorded 30-year average (1981-2010) of 87 inches annually. Lightning Creek is flashy and dynamic due to very high levels of precipitation, unstable landtypes, exposed bedrock, shallow soils, steep terrain, and prone to rain-on-snow events. Although much of the stream's instability is associated with naturally occurring processes, past management practices have exacerbated flood magnitude and timing. On November 6, 2006, a 24-hour record rainfall was set in Idaho with a total accumulation of 9.4 inches measured on Bear Mountain at the top of Rattle Creek – a third order tributary of Lightning Creek. As a result, the flow in Lightning Creek increased to a new recorded high of over 12,000 cfs, nearly double the previous record of 6,220 cfs on May 25, 2003. Approximately 3 million dollars in damage was done to infrastructure, mainly roads and bridges. The U.S. Forest Service initiated a multi-phased watershed-scale restoration project to repair, relocate, and decommission roads and bridges in the watershed and restore damaged aquatic and riparian habitat using instream bioengineering techniques and riparian revegetation. To date, 16 miles of road have been converted to non-motorized trails, 5 miles of road have been converted to motorized trails, 5.5 miles of road have been removed, 0.6 miles of road have been relocated, 2 bridges have been removed, one bridge was constructed, 114 cross-drain pipes have been removed, 30 pipes have been removed with explosives, over 6,000 feet of eroded streambank has been stabilized, 3,500 willows and 4,000 white pine and larch trees have been planted. In the 5th year, the project is focusing is on large wood enhancement in the lower portions of the system where it was washed out due to floodplain alteration, or was purposefully removed in an effort to salvage merchantable timber and reduce flood damage. Based on observations of past restoration projects, the Forest Service is considering large wood enhancement as a method to initiate a trend toward restoring pre-management processes and components.