

Legacy Roads Monitoring Project Update 2013

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In 2008, Congress created the Legacy Roads and Trails program to fund USFS projects reducing the impacts of roads and trails on water and aquatic resources. The Rocky Mountain Research Station partnered with the Pacific Northwest, Intermountain, Northern, and Pacific Southwest Regions of the USFS to assess the effectiveness of road storm damage risk reduction (SDRR) and decommissioning treatments in reducing the run-off and erosion impacts of forest roads on streams. We use the GRAIP model to predict improvements in outcomes based on implemented treatments. GRAIP uses a GPS-based road inventory combined with a GIS model to predict the sediment impacts of roads. Data analysis is currently underway and results are available for 22 of the 47 monitored sites. Road decommissioning was monitored at 11 sites with 67.7 km of total road before treatments were applied. Post-storm inventories on untreated control roads for nine road decommissioning projects indicate a substantial increase in road-stream connectivity between pre-treatment and post-storm of 4.2 km (33%), and a cumulative increase in sediment delivery of 89 Mg/yr (94%) following the storm event. The treated sites showed a substantial decrease of 6.9 km (-44%) of stream connected road, and a reduction in sediment delivery of 194 Mg/yr, or 80%. SDRR treatments were monitored at 12 sites with 86.3 km of road in the pre-treatment sample. Post-storm inventories of four untreated control roads at SDRR sites showed a decrease in road-stream connectivity of 0.3 km (-3%), and a cumulative decrease in sediment delivery of 33 Mg/yr, or 51%. The treated roads showed an increase of 1.1 km (+11%) of connected length, and a net reduction in sediment delivery of 80 Mg/yr, or 67%.