

## **Effects of diversion dams on physical characteristics of streams**

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**Abstract.** Water diversions are ubiquitous with the American West. In Colorado National Forests alone there are 67,000 points of diversion in or within 10 km of the forest boundary. In the 2006, we analyzed 13 diversions on low order streams in Colorado and southern Wyoming that range in baseflow diversion intensity from minimal to near complete. Sites were selected according to strict criteria including no upstream flow alteration, similar stream character upstream and downstream of diversion, and no potential of metal, nutrient or other chemical water quality impairment. Sites were visited twice, once in mid summer and the again in fall, to analyze the streams under varying diversion and seasonal influences. During each visit an extensive set of physical and biological measurements were used to characterize current stream conditions. This presentation outlines the on-going field investigation of this project, and describes preliminary results in the analysis of sedimentation, roughness alteration, and ecological changes associated with these diversions. This research is part of a larger project linking watershed characteristics with flow regime and geomorphic context to diagnose water quality impairment at multiple spatiotemporal scales in the western US.

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