

Post-Fire Flood Hazard Assessment

Meadow Valley Wash and Beaver Dam Wash

Prepared for:

BUREAU OF LAND MANAGEMENT
ELY FIELD OFFICE
702 North Industrial Way
HC 33, Box 33500
Ely, NV 89301-9408

Prepared by:

PBS&J
1120 Cedar Street
Missoula, MT 59802-3911



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1.0 INTRODUCTION

The purpose of this study is to assess changes to runoff, erosion, and sedimentation processes resulting from the wildfires of 2005 and 2006 (Southern Nevada Fire Complex and Lincoln County Complex). The study area encompasses the Meadow Valley Wash (MVW) watershed from just south of the Etna siding on the Union Pacific Railroad (UPRR) and the entire Beaver Dam Wash (BDW) watershed (**Figure 1, Appendix A**).

The assessment methods described below were developed to help decision-makers within the Bureau of Land Management (BLM) and other entities, evaluate if and where certain “values” may be at increased risk due to recent, large-scale wildfires. These values are defined as any infrastructure or natural feature that has significant importance. Some examples are bridges, roads, culverts, and the UPRR tracks, as well as stream channels, riparian areas, and sensitive habitat areas.

Detailed hydrologic modeling was determined to be inappropriate for evaluating impacts at both of the spatial scales being evaluated in this study (landscape scale and small watershed scale upstream of values at risk). Rather than detailed, but non-site-specific modeling, this study applies a practical, on-the-ground evaluation of observed processes with the objective of providing useful insights. This evaluation has been completed through an analysis and explanation of how the runoff-erosion processes have changed since the fires and how they are likely to recover.

The final section of this report offers specific advice on how to proceed with resource management decisions in light of the major ecosystem-altering events which the recent wildfires represent.

2.0 PROJECT AREA DESCRIPTION

Meadow Valley Wash is a tributary of the Muddy River in southeastern Nevada. This north-south trending watershed runs south approximately 118 miles from its headwaters in the northern Wilson Creek Range in Lincoln County to the confluence with the Muddy River in Clark County. The watershed covers an area of 2,548 square miles, a drainage density of 1.98 miles per square mile and ranges in elevation from 9,385 feet on Highland Peak to 1,510 feet at the Muddy River.

Beaver Dam Wash, tributary of the Virgin River, covers 930 square miles in Utah, Nevada, and Arizona. Elevations in the watershed range from 7,710 feet in the Beaver Dam Mountains to 1,752 feet at the Virgin River confluence. Drainage density is similar to Meadow Valley Wash at 2.01 miles per square mile.

Meadow Valley Wash and Beaver Dam Wash occur within two ecoregions: the Intermountain Semi-desert and Desert Province in the north, and the American Semi-desert and Desert Province in the south (Bailey 1995). These two ecoregion provinces generally correspond with the two major land resource areas (MLRAs) that also occur in