

# **ECOLOGICAL CLASSIFICATION EIGHTMILE CREEK BASIN NEVADA**

*Prepared for:*

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*and*

**TROUT UNLIMITED  
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## EXECUTIVE SUMMARY

An ecological classification was applied to the Eightmile Creek basin in Humboldt County, Nevada. The focus of the ecological classification was riverine/riparian habitat (RRH). Eightmile Creek basin is about 20 square miles (12,764 acres) and contains about 64.1 linear miles of stream, of which 13.2 miles is perennial. The ecological classification is hierarchical and consists of seven levels, ranging from broad classes based on general landscape characteristics to very refined classes based on valley-bottom landform and riparian vegetation types. Levels of the hierarchical classification are:

Ecoregion  
    Geologic District  
        Subsection  
            Valley-bottom Type  
                State  
                    Valley-bottom Landform  
                        Riparian Vegetation Type

Eightmile Creek is managed by Forest Service, BLM and private owners. Broad classes (Ecoregion, geologic district, subsection and valley-bottom type) were identified for the entire Eightmile Creek basin. Finer classes (state, valley-bottom landform and riparian vegetation type) were identified only for major tributaries, including upper and lower Eightmile Creek, Charleston Gulch, South Fork Eightmile Creek and an unnamed tributary.

Ecoregions (Omernik 1987) are based on factors that cause regional variation in ecosystems or on factors that integrate the causes of regional factors. Eightmile Creek basin is part of the *Northern Basin and Range Ecoregion*.

Geologic districts are areas of distinctive rock types or parent materials that are generally associated with major structural features. One major and two minor geologic districts were identified in the basin: 1) *Volcanic* rock covers the vast majority (91 percent) of the basin; and 2) the remainder is *Alluvial* and *Lacustrine* deposits.

Subsections are areas with distinctive geomorphic character. Subsections corresponded with geologic districts. The three subsections in Eightmile Creek basin are: 1) *Volcanic fluvial land*; 2) *Alluvial land*; and 3) *Lacustrine land*.

The *valley-bottom landtype* is about 1,191 acres or 9.3 percent of Eightmile Creek basin. The valley-bottom landtype within a subsection was further stratified as valley-bottom types. Valley-bottom types were distinguished by the mechanism and relative effectiveness of geomorphic processes in shaping the valley-bottom. For example, the valley-bottom in the Volcanic fluvial subsection was divided into: 1) *Volcanic fluvial basin*; 2) *Volcanic V-erosional canyon*; and 3) *Volcanic V-depositional canyon*. The valley-bottom in *alluvial lands* and *lacustrine lands* were

named *alluvial draws* and *lacustrine basins*, respectively.

Valley-bottom types for target streams were further divided into states (i.e. condition classes). States were identified based on channel morphology and ranged from natural to severely disturbed. Key attributes for identifying states included: 1) channel elevation relative to that of valley-bottom landforms (i.e. graded versus not graded); 3) bank stability and canopy cover; 4) extent of streambars; 5) impoundment; and 6) management factors (i.e. channelization). Areas filled with mine tailings were also identified.

Landforms included: channel, levee, floodplain, stream terrace and alluvial fan. Soils tend to correlate with landform and valley-bottom type/state. Eleven (11) riparian vegetation types and miscellaneous features were identified. Valley-bottom landforms and riparian vegetation types were mapped from 1:4,800 scale aerial photos dated 1992.

The condition of target streams was assessed using a riparian condition rating calculated from the distribution of states for areas of the valley-bottom and a stream condition rating calculated from the lengths of the stream. Condition ratings range from 25 (worst) to 100 (best). Classes for condition ratings were:

< 50	Very Poor
50-60	Poor
61 - 80	Fair
81 -100	Good

The average riparian condition rating for all target streams (69) indicates that the overall riparian condition class was fair. The riparian condition class for target streams varied from very poor to good. The average stream condition rating for all target streams (80) indicates that the overall stream condition was fair. The stream condition class for target streams ranged from poor to good.

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