

Summary of Water Resource-related Issues for Clear Creek

WATER QUALITY

- Chemical deicers and sand from maintenance activities related to roadways and parking areas increase total dissolved solids and metals concentrations in Clear Creek.
- Runoff from commercial and municipal development affects water quality of Clear Creek.
- Sediment originating from parking areas, roadways, and natural debris flow areas affect stream substrate and wetlands.
- Discharge from wastewater treatment plants contributes to nutrient loading of Clear Creek.
- Roadway accidents near Loveland Pass, Dumont, Fall River, Hidden Valley and at the base of Floyd Hill continue to contribute hazardous materials (e.g., petroleum products) to Clear Creek.
- Excavation of mineralized rock during roadway and municipal development contribute to the metals loading to Clear Creek.
- Channelization of Clear Creek has facilitated the conveyance of sediment and has affected the flooding frequency of Clear Creek.
- Mineralized geology exposed during mining activities and road cuts contribute to the metals loading of Clear Creek.
- Water Quality Standards for zinc, cadmium, lead, and copper are periodically exceeded.

HYDROLOGY / HYDRAULICS / STREAM MORPHOLOGY / FLOODPLAINS

- Stream channelization resulting from roadway and urban development and mining has reduced the sinuosity of Clear Creek by approximately 2% (historic sinuosity was estimated at 1.22 while current sinuosity is estimated to be 1.19).
- Downcutting occurs periodically throughout Clear Creek in natural drainages and as a result of increased hillside slopes at highway cuts.

WETLAND AND RIPARIAN ECOSYSTEMS

- Sedimentation originating from the construction and operation of ski areas and roadways has reduced wetlands and riparian areas.
- Over 100 acres of wetlands and riparian areas have been removed or encroached upon by the development of ski areas and I-70.
- The installation of culverts may be affecting the hydrologic regime of tributaries and drainages entering Clear Creek.

AQUATIC-DEPENDENT COMMUNITIES

- Clear Creek substrate has been affected by sediment, reducing aquatic (benthic invertebrate and fish) habitat.
- Wetland and riparian areas have been removed or encroached upon by the development of I-70, ski areas, and mining activities.
- Sedimentation (embedded substrate) has affected fish habitat.
- Boreal toad (candidate for federal listing) habitat has been reduced and fragmented as a result of roadway development.
- Sedimentation is reducing Georgetown Lake pool depth that is necessary for cover and over-wintering habitat for fish.
- Channelization has enhanced the conditions for rafting and kayaking.

3.0 CLEAR CREEK STREAM SEGMENT 1: CLEAR CREEK/SUMMIT COUNTY LINE (CONTINENTAL DIVIDE) TO DRY GULCH

SS 1 begins at the Clear Creek/Summit County line (Continental Divide) (MP 214) and extends east to Dry Gulch (MP 217) (Figure 3-1). Issues identified according to water resource-related category are listed below:

Water Quality

- Adjacent Land Use
- Highway-related Construction, Operation and Maintenance Activities
- Sedimentation

Hydrology/Hydraulics/Stream Morphology/Floodplains

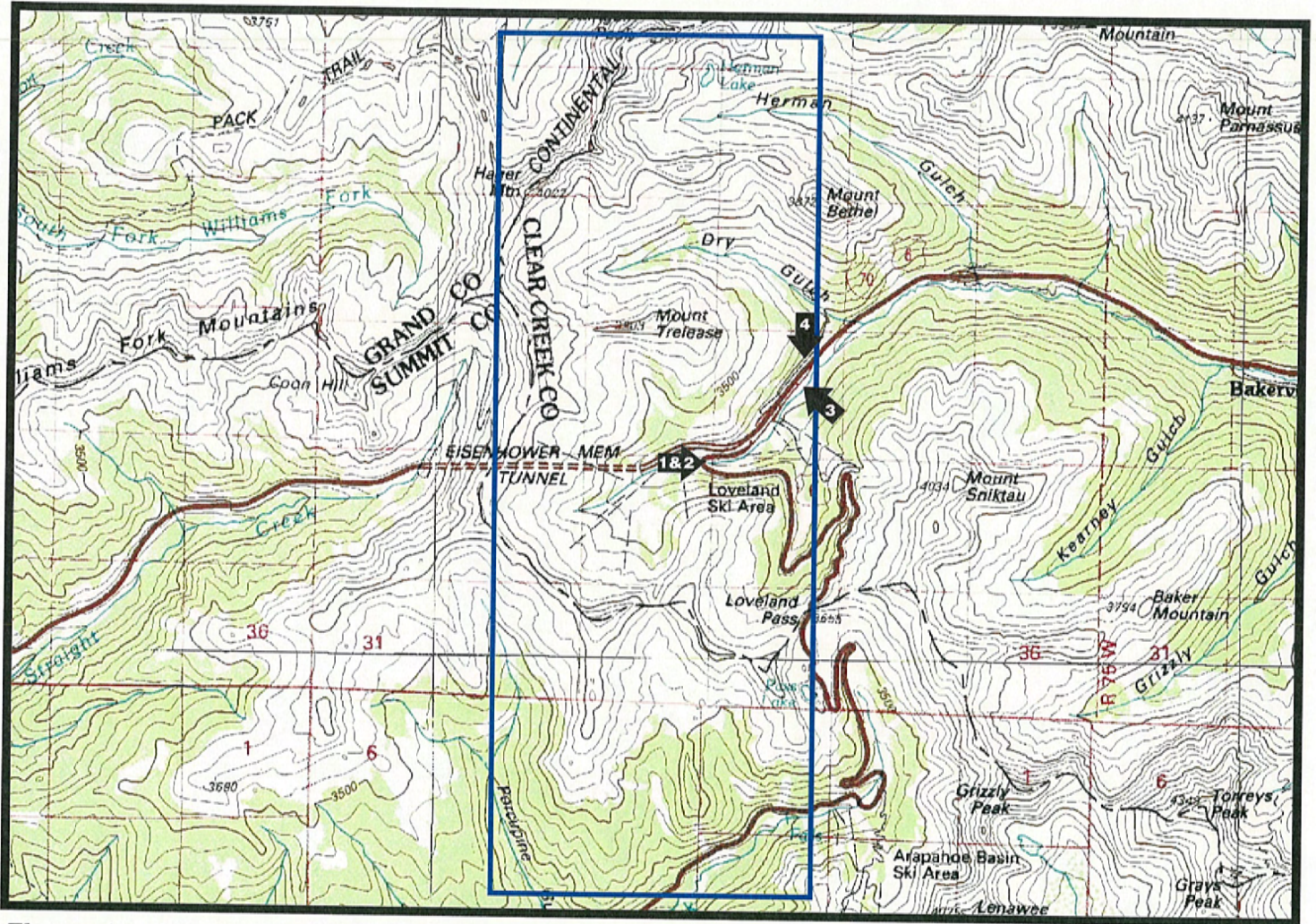
- Adjacent Land Use
- Channelization/Downcutting

Wetland and Riparian Ecosystems

- Highway-related Construction, Operation and Maintenance Activities
- Sedimentation
- Habitat Reduction and Fragmentation

Aquatic-dependent Communities

- Adjacent Land Use
- Highway-related Construction, Operation and Maintenance Activities
- Sedimentation
- Channelization/Downcutting
- Habitat Reduction and Fragmentation



The numbered arrows correspond to the photographs on Figure 3-2

**An Inventory of I-70 Mountain Corridor
Water Resource-Related Issues
Clear Creek Stream Segment 1**

Figure 3-1