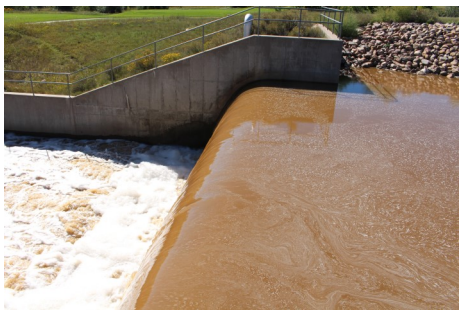
Reservoir Sedimentation

Fact Sheet 2 How Soil Erosion Alters BCR
Updated June 3, 2016

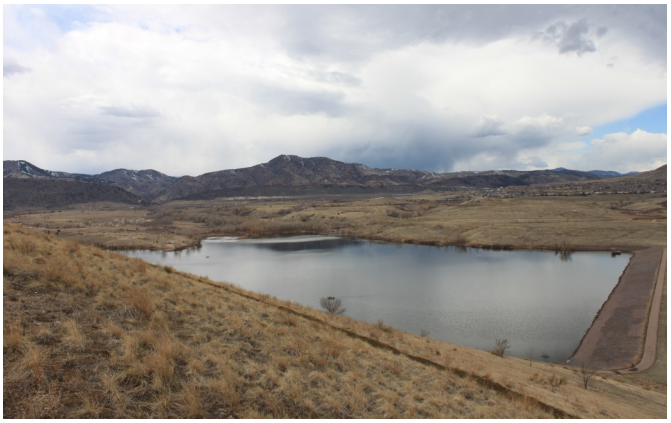
The Bear Creek Watershed Association protects and restores water and environmental quality within the Bear Creek Watershed from the effects of land use.

Clear Creek County
Jefferson County
City of Lakewood
Town of Morrison
Aspen Park Metropolitan District
Brook Forest Inn
Conifer Sanitation Association
Conifer Metropolitan District
Denver Water Department
Evergreen Metropolitan District
Forrest Hills Metropolitan District
Genesee Sanitation & Water District
Geneva Glen
Jefferson County School District
Kittredge Water & Sanitation District
Tiny Town Foundation, Inc.
West Jefferson County Metropolitan District
Evergreen Trout Unlimited
U.S. Army Corps of Engineers



How does excess upstream sediment erosion and subsequent deposition into Bear Creek Reservoir alter the water quality, reservoir habitat and environment?

1. Suspended sediment that reaches the reservoir will reduce the clarity of the water. This decreases the depth of light penetration and changes how the algae grows. Water clarity is measured by the Association using a Secchi Disk. When the light penetration is less than one-meter, then quality of the reservoir is considered as both a water quality and habitat problem.
2. Heavy loads of sediments in the form of suspended sediments impacts recreational uses, mostly the fishery.
3. This suspended sediment load displaces the fish and reduces catch rates. Fine mud reduces fish spawning habitat and rates. It negatively impacts macroinvertebrate populations.
4. Heavy sediment loads contributes to reduces oxygen supplies in reservoir, which hurts the fishery. It can also harm shore and water bird habitat and reduce their food supplies.
5. Often heavy sediment loads introduces nutrients, large amounts of total phosphorus and total nitrogen. This can then causes excessive algal grow or more eutrophic waters.
6. Bed-load sediments reduces the volume of the reservoir (normal pool at the completion of the dam project was listed at 48 feet, today the maximum depth at normal pool is about 38 feet.
7. Major storm loads of sediments can bury the reservoir aeration system, which impacts the fishery.
8. Fine muds deposited during flooding events buries shoreline vegetation, kills plants, alters the visual aesthetics and produces odors, which reduces recreational use.



The Association recognizes the necessity of sediment erosion controls within the watershed.