



*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

# RESERVOIR AERATION

## Fact Sheet 6 BCR Historic Aeration Systems

April 11, 2014, updated June 6, 2016

### [Bear Creek Reservoir Aeration Practice Manages Summer Dissolved Oxygen and is supported by BCWA Policy 8](#)

The aeration system in Bear Creek Reservoir has been operational since the summer of 2002 and uses a fine-bubble diffusion system with aerators distributed across the bottom. The Association and Lakewood operate the aeration system to assure oxygen transfer during the growing season. It reduces chlorophyll productivity, possibly through the partial control of internal nutrient loading. Reduces algal blooms. The Association determined through ongoing monitoring that the de-stratifying aeration system in Bear Creek Reservoir is a necessary and long-term or permanent management practice necessary to protect the quality reservoir fishery and prevent Dissolved Oxygen standard exceedances during summer months of June 1-September 30. Reservoir aeration is also a necessary management tool in low flow conditions.

### Lake Aeration Treatment Systems:

- Hypolimnetic Aeration System (1993-1999)
- Dura-Venturi Aerators (1999-2002)
- ASI Lakebed Aeration System (2002– 2014)
- Note—Aeration system extensively damaged by September 2013 major flood event and required replacement

### Key features of the historic aeration system:

- Eleven Air Diffusion Systems LTC Stainless Steel Modules.
- Six Dura-Venturi aerators.
- 22 Million Gallon per Day per Module pumping rate.
- Approximately one complete reservoir turnover every 3 days.
- The aeration system could increase the Dissolved Oxygen concentrations throughout the water column above standards in 2-5 days.

