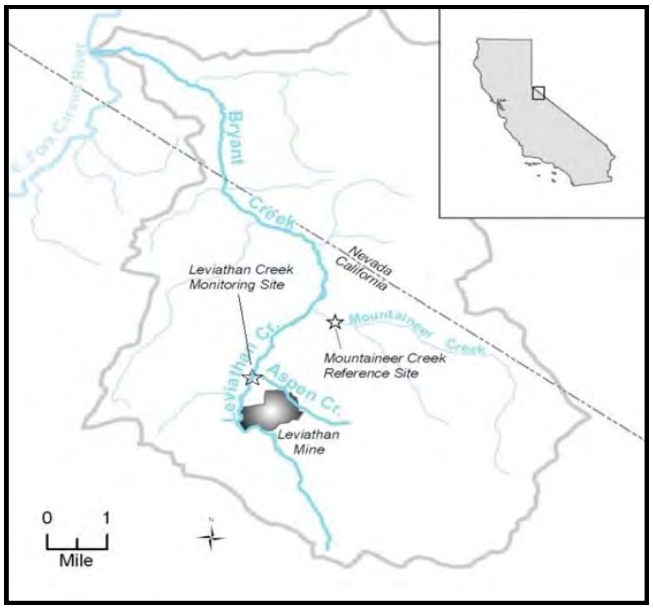
Water Quality Report Card		Metals in Leviathan, Aspen, and Bryant Creeks	
Regional Water Board:	**Lahontan, Region 6**	**STATUS**	☑ **Conditions Improving** ☐ Data Inconclusive ☐ Improvement Needed ☐ Targets Achieved/Water Body Delisted
Beneficial Uses Affected:	COLD		
Implemented Through:	State and Regional Water Board Remedial Actions and CERCLA		
Effective Date:	1984 (Remediation Implementation)	**Pollutant Type:**	☑Point Source ☐Nonpoint Source ☑Legacy
Attainment Date:	To Be Determined	**Pollutant Source:**	Abandoned Mines / Naturally-Occurring

Water Quality Improvement Strategy

Leviathan Mine is a former sulfur mine and current federal Superfund site located on the eastern slope of the Sierra Nevada Mountains in Alpine County. The State acquired the mine in the early 1980s to address water quality problems caused by historical mining activities in the 1930s. In 1985, the Regional Water Board completed construction of a pollution abatement project to capture and evaporate acid mine drainage (AMD), the outflow of acidic metal-laden water from underground mine workings. From 1999 to current, the Regional Water Board has instituted a Pond Water Treatment (PWT) system, which uses lime to raise pH and remove metals as treatment to neutralize AMD from the mine site before being released to Leviathan Creek. Leviathan and Aspen creeks flow across the mine site and join below the mine. Approximately 1.5 miles downstream from the Aspen Creek confluence, Leviathan Creek joins Mountaineer Creek, with the combined flow forming Bryant Creek. Leviathan, Aspen and Bryant creeks are listed on the 303(d) List as impaired for metals.

Leviathan Mine Drainage Area

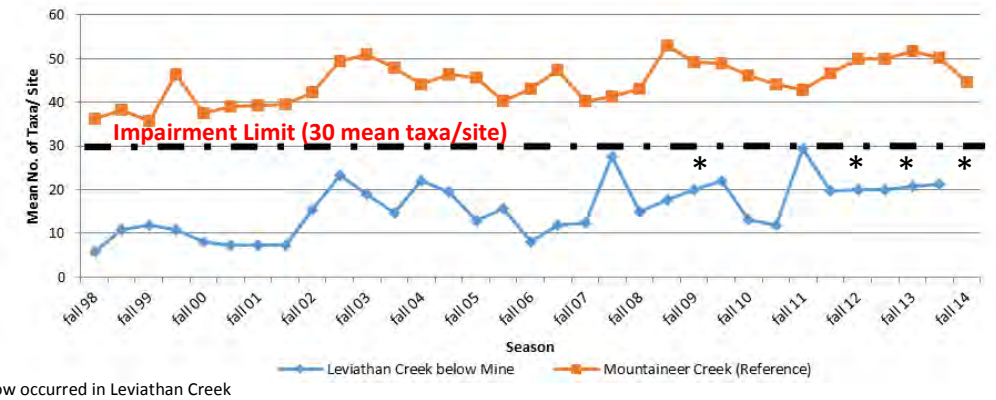


Abatement strategies for AMD include: channelization of Leviathan Creek to separate creek flow from the mine waste; construction of five lined ponds to capture and evaporate AMD; reducing the volume of sludge (dewatering); conveyance of storm water to reduce infiltration through the mine waste; revegetation of specific areas; and year-round bioreactor treatment of the AMD source to Aspen Creek. Abatement activities succeed in treating much of the AMD from Leviathan Mine, but do not eliminate and treat all AMD flow to Leviathan Creek. In 2003, USEPA required the responsible party, Atlantic Richfield Company (ARCO), to conduct cleanup actions and perform a Remedial Investigation/Feasibility Study (RI/FS) for the site. The RI/FS process is underway and is expected to be completed in 2018. Biodiversity studies of Leviathan Creek are used as an indicator to track improvement of cold freshwater habitat as it recovers from the effects of AMD and benefits from treatment activities enacted by the Regional Water Board and ARCO. A TMDL will not be developed; instead this impairment is being addressed by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process.

Water Quality Outcomes

- In 2015, a total of 2.45 million gallons of AMD was neutralized. In addition, approximately 156 tons of dewatered sludge was disposed of in 2016.
- Trends in the diversity of invertebrates, based on biodiversity studies, are improving in Leviathan Creek below the mine, which may be an indication of recovery in the other creeks as well.
- Continuation of the current AMD treatment strategy is ongoing for the foreseeable future, as long as AMD occurs.

Trends in Diversity of Bottom-Dwelling Invertebrates at Leviathan Creek Compared to Reference Condition[a]



* Indicates dry years where no flow occurred in Leviathan Creek

[a] The black line in the graph indicates the impairment limit for benthic macroinvertebrates (an average of 30 taxa per site) for Leviathan Creek below the mine.

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