Water Quality Report Card

Mercury in the Cache Creek Watershed

Regional Water Board:	Central Valley, Region 5
Beneficial Uses Affected:	COMM, WILD
Implemented Through:	Cleanup and Abatement Orders, EPA Removal Action
Effective Date:	February 2007
Attainment Date:	N/A
STATUS	☑ Conditions Improving
Pollutant Type:	☑ Nonpoint Source ☑Legacy
Pollutant Source:	Abandoned mines Naturally Occurring

Water Quality Improvement Strategy

Cache Creek and three of its tributaries (Bear Creek, Sulphur Creek, and Harley Gulch) are on the Clean Water Act 303(d) List for impairment by mercury. Concentrations of mercury in fish exceed levels safe for humans and wildlife species that eat the fish. Sources of mercury are 14 inactive mercury and gold mines, naturally mercury-enriched soil and springs, and deposition of mercury transported in air. The Central Valley Water Board adopted the Cache Creek, Bear Creek, and Harley Gulch Total Maximum Daily Load (TMDL) for mercury in the creeks that establishes aqueous methylmercury allocations calculated to achieve fish tissue objectives and load reductions from inactive mines. The TMDL requires mine owners to submit cleanup plans and land managers, landowners, and Caltrans and other road managers to control and reduce erosion. It also requires entities that operate or construct impoundments and wetlands to minimize methylmercury discharges into the creeks and set erosion control requirements for work within floodplains.

TMDL Load Allocations

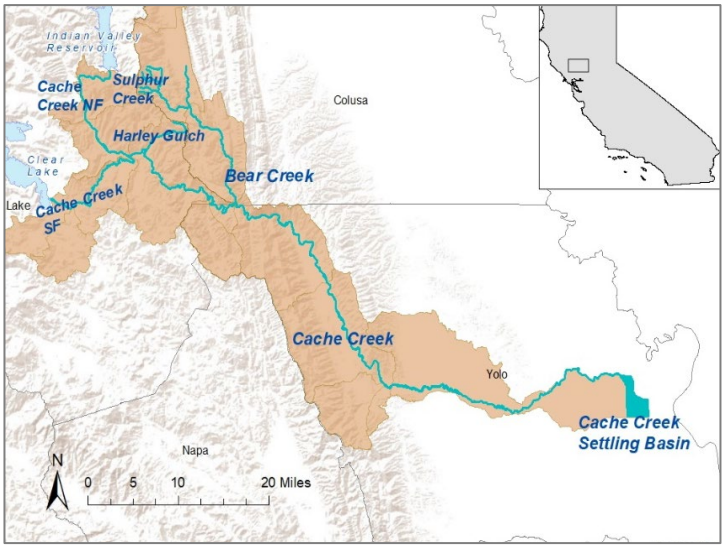
Methylmercury Load Reduction (as % of existing annual load)

Cache Creek u/s North Fork confluence	30%
Harley Gulch	4%
Davis Creek	50%
Sulphur Creek	10%
Bear Creek	15%
Cache Creek at Yolo	54%

Mercury Load Reduction (% of existing annual load from mining and anthropogenic activities)

Inactive Mine Sites	95%

Cache Creek Watershed Map



Water Quality Outcomes

- *Cleanup actions at the Abbott and Turkey Run mines in 2007 controlled the most significant sources of mercury entering Harley Gulch.*
- *In 2012, the US Bureau of Land Management consolidated and covered mine waste at the Rathburn and Petry mines in the upper Bear Creek watershed. Efforts are ongoing to stabilize and revegetate the sites.*
- *In 2016, mine remediation activities included removal, consolidation, and stabilization of mercury mining waste at the Central, Cherry Hill, Empire, Manzanita, West End, and Wide Awake Mines in the Sulphur Creek Watershed.*

Water Quality

Results from sampling and investigation efforts indicate that Harley Gulch continues to recover following stabilization of the mines. Mercury concentrations in sediment in Harley Gulch reach background concentrations about 2 miles downstream from the Abbott and Turkey Run mines. In the Sulphur Creek and Bear Creek watersheds, mercury load reductions are expected near the project sites as the mines are cleaned up, erosion controls are maintained, and vegetation gets established. For additional information see Impact of Mine and Natural Sources of Mercury on Water, Sediment, and Biota in Harley Gulch Adjacent to the Abbott-Turkey Run Mine, Lake County, California.

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