

Addressing historic mines part of Red River fixes

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A massive mine spill that turned the Animas River into an orange sludge for several days earlier this month has highlighted the environmental danger posed by thousands of abandoned mines across the West. But on alpine tributaries that serve as the headwaters of the Red River, the toxic hazard from these historic sites has been at least partially addressed.

In 1996, the New Mexico Environment Department issued a report highlighting major contamination on the Red River as part of an early effort to hold Molycorp accountable for pollution emanating from its molybdenum mine near Questa.

While the still-operating mine was taken to task for contributing toxic levels of heavy metals to the river, the report also noted that long-abandoned, century-old mine workings farther up stream were also a problem.

The report noted that most of the historic mining occurred in three tributaries: Bitter, Pioneer, and Placer creeks. The report concluded there was a "slight, but detectable increase in metal loading at base flows," noting that primary contaminants include aluminum, zinc and manganese.

The report identified 47 historic mines in those three tributaries, and noted that acid rock drainage from these small mines, combined with contamination from the much larger molybdenum mine downstream "constitute the worst sources of metal loading in the Red River watershed."

By the mid-2000s, the U.S. Forest Service undertook its own investigation, taking an inventory of historic and abandoned mine sites on public lands and undergoing several phases of remediation to remove dangerous waste rock piles.

"Compared to Molycorp, these piles were just a tiny fraction of the problem," says Steve McDonald, who oversaw cleanup operations on the abandoned mines starting around 2008. "But our approach was that anything that's contributing to the problem is bad."

McDonald said that water quality tests showed contamination was within drinking water standards, but soil sediments showed elevated numbers of lead and arsenic.

During normal weather, water quality was okay, McDonald said. But during big rain events or runoff, heavy metals were swept from the waste rock piles and into the streams.

Over the next several years, contractors cleaned waste rock piles at dozens of old mine sites above the town of Red River. In the Bitter Creek watershed alone, more than 43,500 cubic yards of waste rock tailings were removed and relocated to lined areas above the flood line.

Nearly all of the work was done to mines found on public land, though contractors did remove some material from the Neptune Mine, which lay on a private mine claim inside the National Forest boundaries.

While quantifying the sources of pollution on the Red River has proven notoriously difficult, McDonald is certain the more than \$2.9 million spent to remediate historic tailings piles has paid off.

“We definitely took out considerable sources of pollution that were adding something to the river,” McDonald said. “But it’s looking pretty good there now.”