

Clean-up efforts underway for Napa's abandoned mercury mines

Barry Eberling, Napa Valley Register, 12-11-16

Stephen McCord is digging deep into Napa County's abandoned mercury mine problem to try to ease threats to wildlife and, in one case, remove a barrier to a major, planned hiking trail.

His McCord Environmental, Inc. is doing cleanup work on the Corona and Twin Peaks mines that drain into the Lake Berryessa reservoir watershed. It is also doing a regional assessment of abandoned mines that could open the door to federal cleanup money.

Dozens of abandoned mercury mines dot the mountains of Napa County. The mines began popping up in the mid-1800s and petered out during the 1900s to be left as scars on the landscape.

"It was unregulated. This predates the Clean Water Act and a lot of general environmental laws," McCord said during a presentation Wednesday at Napa Valley College.

Abandoned mines can leak iron, sulfate, nickel and mercury into local waterways and reservoirs, with mercury getting into the food web. The state has issued warnings recommending people limit Lake Berryessa fish consumption because of mercury. Researchers found high mercury levels there in the blood of swan-like birds called grebes.

A caveat – the waters of Lake Berryessa reservoir aren't poisonous to drink or swim in.

"Water is not really an issue for people," McCord said, adding the mercury is in dirt and no one is going to drink literally dirty water.

But bacteria in the lake converts mercury into the more toxic methylmercury that moves up the food chain. Animals accumulate methylmercury faster than they eliminate it, according to the U.S. Geological Survey.

Today, the Corona Mine in the mountains seven miles northeast of Calistoga and other abandoned mines are viewed as problems. But local residents once celebrated mercury mines as boosts to the local economy.

"A rich strike has been made in the Corona Mine in this county," the Jan. 20, 1899 *The Weekly Calistogan* reported. "About \$800 per day is now being taken out and parties who have seen the strike say the output will soon be increased to \$2,000 per day."

In today's dollars, that \$2,000-a-day comes to \$57,000-a-day, which translates to more than \$20 million over a year.

In June 1928, the paper reported a dinner was held at the Hotel Herrick to celebrate a "fine strike of quicksilver ore at Corona Mine."

A 1950s photograph of the Corona Mine shows a number of structures built along a clear-cut section of hillside. Most striking is a towering, 50-ton capacity stone-and-brick furnace built during the early 1900s to produce mercury vapor from cinnabar. That furnace remains today.

The tone in local newspapers had changed by 1980. State engineer Ed Crawford said the now abandoned Corona Mine was leaking iron into Pope Creek, which drains into Lake Berryessa reservoir. High iron levels could hurt fish, but there appeared to be no feasible, economical solution to the seepage problem, he said.

State reports in 1987 and 1992 said at least four abandoned mines north of Calistoga, including the Corona Mine, posed mercury and acid contamination threats to the Putah Creek watershed. The torn-up landscape and waste rock dumps erode easily.

In recent years, the state of the Corona Mine and nearby Twin Peaks Mine has delayed the extension of the Oat Hill Mine Trail further from Calistoga into the remote north county. The trail makes use of eight miles of Oat Hill Mine Road, which was built as a dirt road between 1873 and 1893 to serve mercury mines.

In 2015, officials with the Napa County Regional Park and Open Space District said they didn't want to extend the trail another five miles past the mines until such hazards as mine holes have been secured.

Today, the Woodland-based environmental group Tuleyome is continuing efforts of a previous landowner to clean up the Corona and Twin Peak mines using a \$2.4 million state grant. McCord Environmental, Inc. is doing such tasks as gating tunnels, covering or removing contaminated soils and planting vegetation.

McCord said the site has about a mile of tunnels. Miners followed a vein until they found the rock they sought and then dug a bigger space far underground, perhaps as big as the Napa Valley College auditorium where he was giving his talk.

"It's a real challenge at this site to have effective treatment when you have a lot of holes in the ground, you don't know where they all are ... it makes it a challenge, to be sure," McCord said.

Miners also dug the Corona Drain Tunnel that empties into Kidd Creek, which drains into other creeks leading to Lake Berryessa.

"When the miners were working the shaft, they didn't want the groundwater coming in ... they'd get all muddy and everything," McCord said. "They dug a couple of hundred feet below that another shaft, not for money, just to drain the hillside, so they could work in the dry."

McCord Environmental, Inc. is working to reduce acidity and metals from water coming from the Corona Drain Tunnel.

The firm is also working on the Westside Brownfields Coalition Assessment Project in parts of Napa, Solano, Yolo, Lake, and Colusa counties. This project funded with a \$467,000 federal Environmental Protection Agency grant seeks to prioritize abandoned mines for cleanup and create an area-wide cleanup plan in 2018.

The effort involves finding landowners with abandoned mines who are willing to have the mines assessed. More money will need to be found to clean up the abandoned mines deemed as priorities.