


VOLUME 22, NO. 1 Spring 2004

A Partnership for Bats & Mines
BCI and U.S. Borax go to work in Death Valley
Michael Rauschkolb



 [View PDF version](#)
[8.12 MB]

Johnny Sheridan was a Death Valley prospector of the old school. He lived in a manmade cave carved out of a volcanic ash bed and combed the hills above Shoshone, California. In 1925, he discovered a rich deposit of borate ore, the raw material of borax. That borate made Johnny a very rich man. He sold his claim to Pacific Coast Borax Company, but kept living in his cave.

U.S. Borax Inc. is a mining company of a new school. The deposit Sheridan discovered was mined until recently, but the mine's upper reaches were abandoned decades ago. And it was in those uppermost workings that a colony of Townsend's big-eared bats (*Corynorhinus townsendii*) discovered an ideal maternity roost. So U.S. Borax, the successor of Pacific Coast Borax, worked with engineers and wildlife biologists to design and install gates in 2001 that keep humans out of the abandoned mine while maintaining airflow and access for the bats. Two years after gating, the colony has grown by 24 percent.

Johnny Sheridan's old home, by the way, is now occupied by pallid bats (*Antrozous pallidus*).

U.S. Borax has partnered with Bat Conservation International for about five years in protecting bats and the public at abandoned borate mines in and around Death Valley. The company's active commitment to bat conservation traces to a BCI-sponsored Bats and Mines workshop in 1998. Borax has installed 11 bat-friendly gates at three mining sites since 2000 and plans nine more this year. The Death Valley area is home to at least 16 bat species, many of which use the old mines as roosts.

More than a century of mining for gold, silver and borax left this ruggedly beautiful area pockmarked with abandoned and deteriorating underground mines. These remnants of early ventures have become serious safety concerns as more and more people venture into the desert backcountry.

Old mines pose temptations to off-road adventurers and some have become popular – and potentially hazardous – destinations. Faced with risks to the incautious public, Borax has closed more than 400 mine openings by backfilling, plugging and capping. More recently, the company has been working with BCI, local bat biologist Patricia Brown and engineer James Cremins to identify old mines used by bats and close them to the public without barring the bats.

For example, when sampling at the Lila C Mine showed that all the ore had been extracted, Borax sponsored biological surveys that detected several bat species, including Townsend's big-eared bat, using the mine. To close the mine, the company first stabilized four of its entrances by placing concrete sewer pipes, roughly 6 feet (1.8 meters) in diameter, in them. The pipes provide a strong base for the installation of bat-compatible gates. These four openings connect to the extensive underground workings that offer both summer and winter habitat for bats. Other entrances, which weren't used by bats, were capped. The surface was then re-contoured and the roads closed, making the reclaimed and

gated sites safe for both bats and people.

Borax has developed a detailed procedure for closing and sealing abandoned mines. It begins by producing new maps of the mine workings, since old maps are not always accurate. Then biologists conduct internal or external surveys to determine current wildlife usage. Once wildlife needs and priorities are set, mining engineers design an appropriate closure method for each mine opening. Closures are done in the spring or fall, when bats will be least affected.

These efforts play an important role in developing new mine--closure technology. The sewer-pipe stabilization method, for example, was used at the abandoned Murphy Gold Mine in Nevada to protect a large colony of pallid bats.

With a long history of community involvement, Borax is now working with BCI and local residents to develop a volunteer-based, long-term monitoring program for gated bat habitats of the Amargosa Valley at the southern end of Death Valley. The study area includes three small towns (Shoshone, Death Valley Junction and Tecopa), two multi-gated mine complexes and a recently rebuilt bat gate at Devil's Hole Cave that protects a colony of Townsend's big-eared bats. Borax provides night-vision video cameras, dataloggers and a bat detector. The program will help determine which species are using the gated mines and when and how they are using them. Pre- and post-gate monitoring will document how bats respond to protection measures.

Company mines along the Amargosa Valley are ideal study sites for Townsend's big-eared bats. Outflights from the mine portals are easy to record with low-light video cameras, and roosts will be equipped with dataloggers that record temperature and relative humidity.

Such long-term studies will improve mine-reclamation projects on Borax properties and elsewhere. Society needs the products that mining industries pull from the ground, and environmental stewardship and reclamation are becoming critical components of mining company business plans.

MICHAEL RAUSCHKOLB, a certified professional landman with a master's degree in geology, is the Principal Land Agent at U.S. Borax.

All articles in this issue:

- ▶ [8,000,000 Fruit Bats](#)
- ▶ [Amazing Southern Africa](#)
- ▶ [Changing Island Attitudes](#)
- ▶ [A Partnership for Bats & Mines](#)
- ▶ [Death Valley Roots](#)
- ▶ [Carving Out a Home](#)
- ▶ [Bats Reseed Lost Forests](#)
- ▶ ["The Call of the Wild"™ Part 2](#)
- ▶ [Volunteers Make the Difference](#)