

The Clancyville Mine, located in Clancyville, California, has been extracting [REDACTED] since the 1950s. This rare earth element; used in a variety of applications including the making of [REDACTED]; is critical to the United States's reindustrialization efforts. This is the only mine in the country where the material is mined, with China being the world's top supplier. An even lesser-known fact about the [REDACTED] is that it is the primary food source for the [REDACTED], who lives in the area and was once listed as an endangered (EN) species.

As mining activities ramped throughout the decades, EPA scientists upgraded the status of the animal to critically endangered (CR) status. It is widely believed within the agency that the strip-mining being carried out at Clancyville has been disastrous for the animal. The latest data shows that the population may be less than two thousand individuals. Exact figures are hard to ascertain, however, due to the mines operating company; [REDACTED] [REDACTED] being less than cooperative with EPA personnel.

The [REDACTED] burrows into the ground around the area of Clancyville and indulges in the rich mineral deposits it contains. Like other fossorial mammals, the [REDACTED] possesses a special physiological feature that allows it to digest trace amounts of rare earth elements, in this case cerium. They possess specific protein molecules within their digestive system, which renders the toxicity of heavy metals negligible. The diet of the [REDACTED] is [REDACTED].

The topography and composition of local soils have been greatly affected by strip mining activities around the Clancyville site. The absence of surface layers leads to the elimination of both active burrows and mineral layers for feeding. Tailings runoffs also affect pH levels in local soils, which could influence the bioavailability of [REDACTED]. Surveys [REDACTED] showed a reduction of 37% in confirmed burrow densities around the area within a 15-kilometer radius from the site.

An additional concern associated with habitat fragmentation is related to an [REDACTED] [REDACTED] The expansion of these facilities and changes have fragmented the [REDACTED] habitat into more isolated patches of land. Genetic samples reveal a decrease in heterozygosity among sub-populations, leading to concerns over inbreeding. The long-term viability of [REDACTED] sub-populations is a general concern because of a lack of corridors and undisturbed mineral access.

Predictive modeling by the Environmental Assessment Division puts functional extinction within 18–25 years at existing extraction rates. Although domestic [REDACTED] production is of prime economic and strategic relevance, mitigation measures, such as phase-off extraction zones, artificial mineral deposits, and legal conservation buffers, are presently under review.

Further coordination among agencies will be necessary to strike a balance between national industrial priorities and statutory responsibilities under the Endangered Species Act. Continued monitoring is recommended.