

Mouse population in Yosemite may yield clues to hantavirus

12 September 2012, by Kate Mather

As an investigation into the hantavirus cases traced to Yosemite National Park continues, public health authorities said they have learned more about the park's deer mouse population that could shed light on what prompted a recent outbreak of the rare rodent-borne disease.

Eight cases of the disease have been linked to the park since mid-June - three of them fatal. Officials have called the Yosemite outbreak unprecedented - more than one hantavirus infection from the same location in the same year is rare.

Authorities are looking into several factors that could have contributed to the outbreak, but recent trapping indicates that the park's deer [mouse population](#) is larger this year, said Dr. Vicki Kramer, head of the California Department of Public Health's vector-borne disease section. Deer [mice](#) are the primary carriers of hantavirus in the U.S.

Agency officials have twice set up peanut butter-laced [traps](#) for deer mice at the park, Kramer said. The first traps - set between Aug. 21 and Aug. 23 - were centered on Curry Village, where seven of the eight hantavirus cases have been traced to the campground's signature tent cabins.

About 50 percent of the traps caught mice, Kramer said. Of the mice captured, 13.7 percent tested positive for antibodies of [sin nombre virus](#), indicating they have or have had hantavirus.

That percentage is on par with the state average, which stands at about 14 percent, Kramer said.

After additional cases of hantavirus were linked to Yosemite - including one traced to another area of the park, the High Sierra Loop - [public health officials](#) returned to trap more mice, Kramer said. Between Sept. 4 and Sept. 6, traps were set in Curry Village and throughout Tuolumne Meadows, which covers part of the High Sierra Loop.

The results from the second set of mice were not yet complete, but Kramer said about 45 percent of the traps set in Tuolumne Meadows were successful, up from previous years. In 2007, only 17 percent of traps were successful; in 2008, 25 percent.

Some experts have wondered if more [deer mice](#) contributed to the Yosemite outbreak, as hantavirus cases in the past have been linked to an abundant population.

"That could be a contributing factor," Kramer said of the Yosemite cases. "This seems to be supporting that hypothesis."

The mice collected from [Yosemite](#) - generally no more than 100 are studied at a time, Kramer said - were taken offsite for testing. Kramer said they were then euthanized and stored in freezers in case experts need their blood or tissue for additional research.

"Our objective is not rodent reduction but risk assessment by trying to get a general idea of mice abundance," Kramer said.

Danielle Buttke, a veterinary epidemiologist with the National Park Service, said the multiagency investigation into the park's outbreak could take months to complete. Officials are looking into a variety of factors that might have influenced the cases, including [rodent](#) population and environmental factors.

The development of Curry Village was also something to consider, she said. The popular campground offers more food for the mice, as well as protection - their natural predators are more likely to be scared off by such a large human presence.

"It's a really unique opportunity to learn about [hantavirus](#) because it's so unprecedented," she

said.

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