

Avian Influenza detected in deceased mountain lions

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The Eurasian strain of highly pathogenic avian influenza (HPAI H5N1) was detected in two mountain lions in Mono County in December 2022 and January 2023, according to wildlife health experts with the California Department of Fish and Wildlife (CDFW). While additional disease testing is being conducted to rule out the possibility of co-infections, HPAI H5N1 is suspected to be the cause of the death for both mountain lions.

This is the second species of wild mammal known to have contracted HPAI H5N1 in California since the virus was reported in wild birds in July 2022.

In January, the virus was detected in a bobcat found in Butte County.

The new findings also mark the first detection of HPAI H5N1 in Mono County. To date, the virus has been found in 45 counties statewide.

“The Eurasian lineage of avian influenza is primarily a disease impacting birds but is occasionally being detected in wild mammals. We don’t expect this to have a population-level impact for California’s mountain lions or other mammalian carnivores, but it is a disease we will continue to monitor,” said Dr. Jaime Rudd, a pesticide and disease investigations specialist in CDFW’s Wildlife Health Lab.

“The main route of disease transmission for carnivores seems to be through ingestion of infected birds – typically waterfowl such as geese. Biologists following the movements of these mountain lions noted that they had preyed upon wild Canada geese in the past,” Rudd said.

Remains of the two mountain lions, who were related (mother and daughter), were collected from Mono Lake in Mono County on December 23 and January 14. Samples were submitted to the California Animal Health and Food Safety Laboratory in Davis for preliminary testing. Last week, the U.S. Department of Agriculture’s National Veterinary Services Laboratories confirmed the detection of HPAI H5N1.

“The main pathological finding for these two mountain lions was encephalitis, which is inflammation of the brain. Additionally, there were lesions in the lungs causing pulmonary edema. Much of the lesions in the brain and lungs were associated with the virus, but additional disease testing is being performed to rule out the possibility of co-infection,” said Rudd.

Of note is that both mountain lions were wearing GPS collars as part of a CDFW population study. The mortality notification sent from the collar helped biologists track the deceased animals and allowed for their remains to be collected in a timely manner to perform necropsies and determine cause of death.

“HPAI H5N1 is still considered a low-risk zoonotic pathogen,” said CDFW Senior Wildlife Veterinarian Dr. Deana Clifford. “It’s significant that the detections occurred far from the bobcat detection, and in an area where the disease had not yet been detected in wild birds. This means it’s possible that the mountain lions may represent detections of a new foci of infections for wild birds.”

Notwithstanding the mountain lion and bobcat detections, infection of wild mammals with avian influenza viruses appears to be relatively rare. Elsewhere in the U.S. and Canada, periodic detections of HPAI H5N1 have been made in mammalian carnivores including foxes, bobcats, raccoons, skunks and bears. Detections in mountain lions have occurred in five other states. The virus has also been detected in a small number of marine mammals.

The strain of HPAI H5N1 currently circulating in the U.S. and Canada has caused illness and death in a higher diversity of wild bird species than during previous avian influenza outbreaks, affecting raptors and avian scavengers such as turkey vultures and ravens. Mammalian and avian predators and scavengers may be exposed to avian influenza viruses when feeding on infected birds.

An informational flyer addressing frequently asked questions about avian influenza is available on CDFW’s website. Currently, the Centers for Disease Control considers the transmission risk of avian influenza to people to be low, but recommends taking basic protective measures (i.e., wearing gloves and face masks and handwashing) if contact with wildlife cannot be avoided. CDFW does not recommend people handle or house sick wildlife.

Practicing biosecurity is the most effective way to keep people, domestic poultry and pets healthy. Please visit the CDFA and USDA websites for biosecurity information. Please report sick or dead poultry and pet birds to the CDFA hotline at (866) 922-2473.

CDFW's Wildlife Health Laboratory, in coordination with partners, continues to monitor wildlife for signs of illness and investigate mortality events. The public is encouraged to report dead wildlife using CDFW's mortality reporting form. For non-urgent questions concerning wildlife, please contact your local CDFW Regional Office or your local animal control service.