

# California condor samples test positive for H5N1 bird flu at veterinary diagnostic laboratory

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California condor in flight. Credit: U.S. Fish & Wildlife Service

At least seven deceased California condors from a northern Arizona population were infected with highly pathogenic avian influenza this

spring, the Oregon Veterinary Diagnostic Laboratory at Oregon State University has found.

As of Monday, the U.S. Fish and Wildlife Service had reported a total of 20 deceased condors in the Arizona flock, with 10 confirmed positive for HPAI, including those tested at OSU. OSU is currently testing additional deceased condor samples for HPAI. The deceased birds to date represent nearly 4% of the condor population left in the world.

The OSU laboratory detected HPAI in samples from 11 dead condors from the Arizona population. Seven of those have been confirmed by the U.S. Department of Agriculture's National Veterinary Services Laboratory, and OSU lab supervisors are awaiting final confirmation on the last four samples OSU tested.

The same virulent H5N1 strain of avian influenza has been responsible for the deaths of more than 40 million egg-laying hens in the U.S since the current [outbreak](#) began in January 2022, with the losses also contributing to rising egg prices. The virus, which has no cure, is spread via bird-to-bird contact and also affects many mammals.

There are only about 500 California condors in the world, so a highly pathogenic, highly contagious disease hitting the species is alarming, said Kurt Williams, director of the diagnostic laboratory housed in OSU's Carlson College of Veterinary Medicine.

Due to many human factors including poisoning, shooting, habitat degradation and the collection of eggs and feathers, California condors nearly went extinct in the 1980s, with a population low of 22 birds. Conservation and breeding programs have helped increase their numbers, but the birds are still at high risk, especially from lead poisoning caused by eating carcasses full of bullet fragments left by hunters.

"Their numbers are low enough that any individual leaving the population prematurely is an important event for the species," Williams said. "This is a species that has made a remarkable recovery through conservation, and now to have this disease hit is pretty devastating."

The 20 dead condors this spring were part of a population that spans several national parks in northern Arizona and southern Utah, with the first deceased female in the flock collected on March 20, according to the Fish and Wildlife Service. The carcasses were all sent to the National Fish and Wildlife Forensics Lab in Ashland, Ore., for necropsies to determine cause of death.

Spleen samples from the birds were then sent to the diagnostic laboratory at OSU, where technicians extracted RNA and conducted PCR tests to identify the virus, said Donna Mulrooney, quality assurance manager in the laboratory.

Once OSU positively identified avian influenza, the condor samples were sent to the National Veterinary Service Laboratory in Iowa for final confirmation. Seven are confirmed and four are "presumed non-negative," OSU lab supervisor Dawn Dirks said.

The disease affects several organ systems, primarily the respiratory, gastrointestinal and nervous systems. According to the Oregon Department of Fish and Wildlife, symptoms in birds include lethargy, inability to fly, erratic behavior, loss of coordination, cloudy eyes, swimming in circles and head shaking. Birds typically die within 72 hours of showing clinical signs.

Several factors have made the current outbreak much more severe than previous avian flu outbreaks, Mulrooney and Williams said.

In the past, [avian flu](#) was more seasonal, flaring during spring and fall

when waterfowl migrate but then subsiding in the off-seasons. The outbreak that started in January 2022, however, has not really had an off-season, Williams said.

This outbreak is also affecting a much wider range of mammals, which carries the threat of spreading to humans, though the risk is low and only a few human cases have been reported this year, all outside the U.S.

In addition to both domestic and wild birds, in the last year the OSU laboratory has detected the virus in two feral cats, several skunks, a raccoon and an American marten.

The current outbreak has also had a massive economic impact, costing the poultry industry tens of millions of dollars last year and contributing to soaring egg prices.

While the risk to humans is low, people still need to be cautious around wildlife, Williams said.

"Don't pick up sick or dead birds or mammals; just leave them be and steer clear," he said.

Provided by Oregon State University

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