

New vaccine expected to give endangered California condors protection against deadly bird flu

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Condor keeper Debbie Sears, left, holds tight on a condor while Dr. Dominique Keller, chief veterinarian, right, gives the California condor an avian influenza vaccine as Condor keeper Chandra David, center, looks on at the Los Angeles Zoo, on Tuesday, Aug. 15, 2023. Antibodies found in early results of a historic new vaccine trial are expected to give endangered California condors at least partial protection from the deadliest strain of avian influenza in U.S. history.

Credit: AP Photo/Richard Vogel

Antibodies found in early results of a historic new vaccine trial are expected to give endangered California condors at least partial protection from the deadliest strain of avian influenza in U.S. history.

The California condor is the only bird species in the U.S. that has been approved for the new emergency-use vaccine, which was administered this summer to condors bred in captivity during a trial at the Los Angeles Zoo, the San Diego Zoo Safari Park and the Oregon Zoo.

Authorities launched the study after the avian influenza deaths earlier this year of 21 free-flying condors in Arizona, part of a Southwest flock usually accounting for a third of the wild population.

Wildlife officials feared that the outbreak's toll on the California condor population could erase any gains made to rebuild the wild population, spurring the efforts to fast-track the vaccine.

After 40 years of recovery efforts to prevent the extinction of the iconic vulture with a 10-foot (3-meter) wingspan, the wild population today has fewer than 350 condors in flocks spanning from the Pacific Northwest to Baja California, Mexico.

"Losing 20 birds is effectively akin to setting the recovery program back by 10 years," said Dr. Hendrik Nollens, vice president of wildlife health for the San Diego Zoo Wildlife Alliance.



Dr. Dominique Keller, chief veterinarian, holds an experimental influenza vaccine prior to administering to a group of California condors at the Los Angeles Zoo, on Tuesday, Aug. 15, 2023. Antibodies found in early results of a historic new vaccine trial are expected to give endangered California condors at least partial protection from the deadliest strain of avian influenza in U.S. history. Credit: AP Photo/Richard Vogel

The so-called bird flu reached the U.S. in February 2022 after wreaking havoc across Europe. U.S. agriculture officials consider this year's cases to be part of last year's outbreak, which was recorded as the country's deadliest ever.

Authorities confirmed the flu's presence earlier this month in

commercial poultry flocks in South Dakota and Utah, heightening concerns ahead of the spring migratory season. The outbreak cost poultry producers nearly 59 million birds across 47 states, including egg-laying chickens and turkeys and chickens raised for meat. The flu also caused spikes in egg and turkey prices for consumers and cost the federal government more than \$660 million.

Early results indicate that when 10 condors were vaccinated with half a milliliter (0.016 fluid ounces) on two occasions—an initial injection and a booster administered 21 days later—60% of the birds showed measurable antibodies expected to protect them from avian flu after exposure.

"We're thankful that we're getting any immune response," said Ashleigh Blackford, the California condor coordinator for the U.S. Fish and Wildlife Service.



Condor keeper Debbie Sears, carries a California condor prior to the large bird being administered an experimental avian influenza vaccine at the Los Angeles Zoo, on Tuesday, Aug. 15, 2023. Antibodies found in early results of a historic new vaccine trial are expected to give endangered California condors at least partial protection from the deadliest strain of avian influenza in U.S. history. Credit: AP Photo/Richard Vogel

The population was nearly wiped out by hunting during the California Gold Rush in the mid-1800s, as well as by poisoning from toxic pesticide DDT and lead ammunition.

In the 1980s, only 22 California condors were left in the wild. They were captured and placed in captive breeding programs to save the species.

Zoo-bred birds were first released into the wild in 1992 and in the years since have been reintroduced into habitats from which they had disappeared. The ongoing re-wilding efforts are considered a conservation success.

The bird flu trial's progress will allow wildlife officials to move forward and release roughly two dozen vaccinated condors into the wild in California and Arizona by the end of the year. The government is awaiting additional results before deciding whether free-flying condors should be captured and inoculated. Officials already vaccinate condors in captivity and in the wild for West Nile virus.

Dr. Carlos Sanchez, the Oregon Zoo's director of animal health, said wildlife officials faced questions about undertaking the bird flu vaccine study.

"Human intervention, veterinary intervention, is not something we do all the time or take lightly," he said. "It wasn't an easy decision."

The shots initially were tested on black vultures to make sure they could be safely injected into condors in managed care beginning in July. The post-inoculation monitoring and testing lasted 42 days and officials said no adverse reactions occurred.

Dr. Dominique Keller, the LA Zoo chief veterinarian, said participating in the historic trial was one of her career's highlights. She hopes the condor study will lead to bird flu vaccines for other endangered species.

"It was just so incredible to be the first one to hold the vaccine in my hand and actually give it to the first bird," she said.

The trial's second test group includes 10 condors vaccinated with one dose of a single milliliter (0.03 fluid ounces). Results from those birds

will determine whether condors in the wild will get the shot.



Megan Duncan, Vet Tech, helps Condor keeper Debbie Sears, right, hold a California condor while Dr. Dominique Keller, chief veterinarian, left prepares to give the California condor an avian influenza vaccine at the Los Angeles Zoo, on Tuesday, Aug. 15, 2023. Antibodies found in early results of a historic new vaccine trial are expected to give endangered California condors at least partial protection from the deadliest strain of avian influenza in U.S. history. Credit: AP Photo/Richard Vogel



Dr. Dominique Keller, chief veterinarian, center, joined by her team showing how many it takes to administer to a California condor an avian influenza vaccine at the Los Angeles Zoo, on Tuesday, Aug. 15, 2023. Antibodies found in early results of a historic new vaccine trial are expected to give endangered California condors at least partial protection from the deadliest strain of avian influenza in U.S. history. Credit: AP Photo/Richard Vogel



Visitors arrive at the Los Angeles Zoo, on Tuesday, Aug. 15, 2023. The LA Zoo's ongoing breeding-in-captivity and re-wilding programs for the California condor remain essential in saving the species. The California condor is the only bird species in the U.S. that has been approved for the new emergency-use vaccine, which was administered this summer to condors bred in captivity during a trial at the Los Angeles Zoo, the San Diego Zoo Safari Park and the Oregon

Zoo. Credit: AP Photo/Richard Vogel

"We want to look at the data more holistically before we kind of jump ahead to what's next," Blackford said.

The condor is intrinsically tied to several Native American tribes in the West and is considered by tribal members to be equal or even superior to humans. The condor disappeared from the Yurok Tribe's ancestral lands in Northern California in the late 1800s but returned in 2021 after major conservation efforts from a team led by Tiana Williams-Claussen, the tribe's wildlife department director.

Watching the avian flu wipe out 21 birds in Arizona just a few years later was "deeply impactful" to members of the tribe, Williams-Claussen said. The study and vaccine could prevent a repeat of the devastation.

"We're all kind of waiting with bated breath to see what the final results are going to be," she said.

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