



WILDLIFE HEALTH PROGRAM NEWSLETTER

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John Brunjes Photo



WILDLIFE HEALTH PROGRAM

HD Update in Kentucky Wildlife

Kentucky Fish and Wildlife’s Wildlife Health Program monitored the occurrence of Hemorrhagic Disease (HD) during the summer and fall of 2025. As of December 31, 2025, KDFWR had received >900 reports from the public, documenting ~1750 suspect cases in white-tailed deer and confirming cases of HD in 31 counties.

Hemorrhagic disease refers to an infection caused by a group of viruses in the genus Orbivirus. In Kentucky, HD primarily affects white-tailed deer but can infect elk as well. It is transmitted by a biting midge (*Culicoides* spp.) that breed in the moist, muddy areas near wetlands, water bodies, agricultural areas, etc. There are two viruses that can cause HD: epizootic hemorrhagic disease virus (EHDV) and bluetongue virus (BTV). Most of the cases documented in Kentucky's wild deer are caused by EHDV, with a few detections of BTV in previous years. In 2025, several different serotypes were identified from positive samples, including EHDV-1 (n=1), EHDV-2 (n=15), and EHDV-6 (n=11). EHDV-2 is the most common serotype seen in Kentucky, followed by EHDV-6.

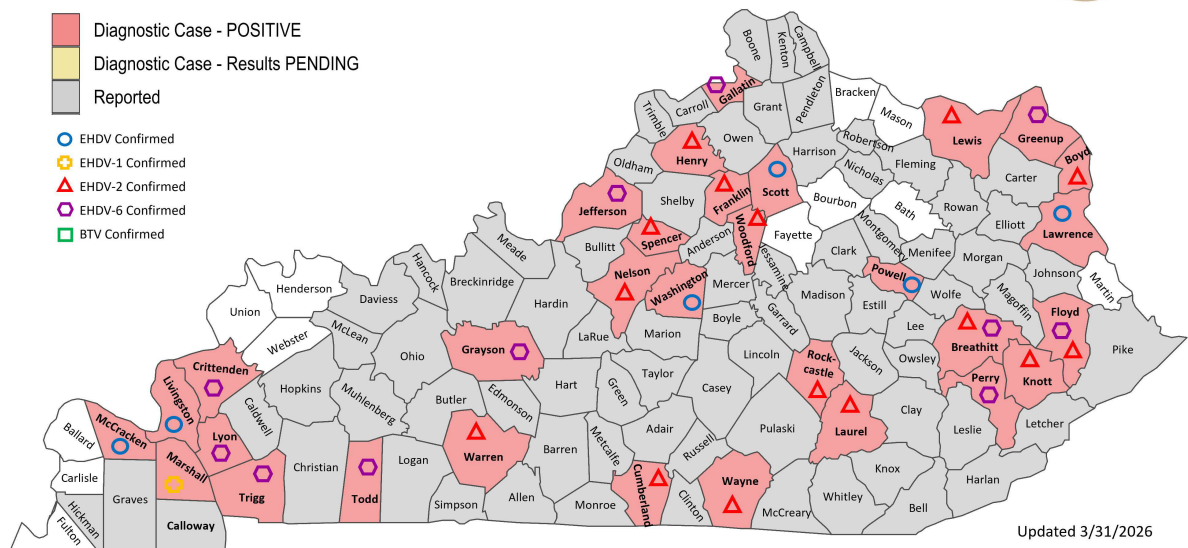
Hemorrhagic disease symptoms include depression, lethargy, fever, difficulty breathing, nasal discharge, and swelling of the neck, head, tongue and eyelids. As the disease becomes more

severe, internal hemorrhaging may occur; this can lead to internal organ damage and eventual death. Deer infected with HD are often found in or near bodies of water like rivers, streams and ponds as deer to seek relief from symptoms such as fever and dehydration.

Prevention and treatment options for HD are very limited and not viable options for wild deer populations. However, some deer can survive HD infections and develop natural immunity for the serotype they were exposed to. While HD outbreaks are concerning because they can result in very visible, localized mortality events, deer populations typically recover quickly without long-term population declines.

Suspected cases of HD can be reported to the Kentucky Department of Fish and Wildlife Resources by calling the Information Center at 1-800-858-1549 from 8 a.m. to 4:30 p.m. (Eastern) on weekdays or submitted [online](#).

Hemorrhagic Disease in KY White-tailed Deer
June 2025 – December 2025



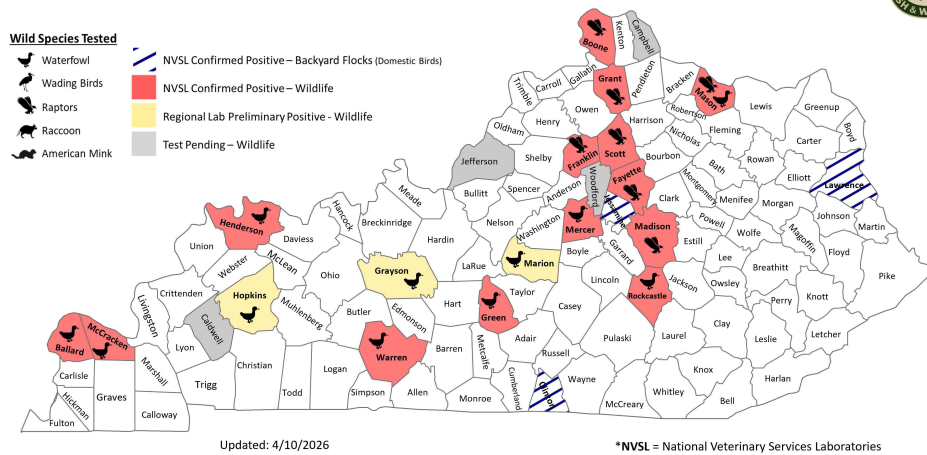
Updated 3/31/2026

Fall & Winter HPAI Detections

Throughout the fall and winter, the Kentucky Department of Fish and Wildlife Resources has received steady reports of wild birds exhibiting symptoms of Highly Pathogenic Avian Influenza (HPAI). When possible, fresh specimens were promptly collected and sent to a regional laboratory for testing. Following an initial detection, samples from a presumptive positive are sent to the National Veterinary Services Laboratory (NVSL) for

confirmation. Since September 2025, HPAI has been detected in wild waterfowl, raptors, and even backyard flocks of domestic poultry. However, there have been no detections in wild mammals, as opposed to last year's positive in a raccoon in northern Kentucky. Currently, detections are mainly clustered around north-central and western Kentucky.

Highly-Pathogenic Avian Influenza Cases in KY
(September 2025 – present)



Chronic Wasting Disease in Pulaski County

In late October 2025, the Kentucky Department of Fish and Wildlife Resources detected a second case of Chronic Wasting Disease, this time from a 2.5-year-old harvested in Pulaski County, Kentucky. As required by KDFWR's CWD Response Plan, a public meeting was held in Somerset on November 18, 2025 to discuss this detection with the public and provide information about the establishing of a surveillance zone, regulations, and testing options. During its quarterly meeting in December 2025, the Kentucky Fish and Wildlife Commission approved a CWD Surveillance Zone expansion, adding Casey, Laurel, Lincoln, McCreary, Pulaski, Rockcastle, Russell, Wayne and Whitley counties. This surveillance zone limits carcass transport and bans both baiting and rehabilitating deer in the aforementioned counties.

Following this detection, KDFWR significantly increased surveillance in wild deer in these nine counties. KDFWR staff worked diligently to collect samples from an increased number of hunter-harvested white-tailed deer with the help of taxidermist and processor partners in the region and at four voluntary check stations during modern gun season.



Diagnostic Case Highlight:

Mystery Bird Illness • Grayson Collier

This article reviews a case from June 2025 involving a juvenile male blue jay (Cyanocitta cristata) found in a residential backyard in Jefferson County and subsequently collected by the Wildlife Health Program. The bird was observed hopping around the yard with bulging, crusted eyes and showing clear signs of distress (Figure 1). Given the severity of its condition, the blue jay was humanely euthanized using isoflurane followed by cervical dislocation.

The carcass was submitted to Southeastern Cooperative Wildlife Disease Study (SCWDS) for further examination. Necropsy findings indicated that the bird was in good overall nutritional condition, with well-developed pectoral musculature and adequate fat reserves. No major abnormalities were observed in the internal organs. The crop and proventriculus were empty, while the ventriculus contained a substantial amount of partially digested insects and several seed kernels. Both eyes exhibited a moderate amount of clear discharge accompanied by mild to moderate periocular swelling and skin rugosity. Histologic examination revealed acute inflammation of the cornea and eyelids.

These ocular findings closely resembled the clinical signs observed during a widespread songbird mortality event among fledgling songbirds in the summer of 2021, for which a definitive cause remains undetermined.

Diagnostic testing was not performed on this individual, as previous testing of birds with identical clinical signs during the earlier outbreak did not detect bacterial pathogens, herpesvirus, or arboviruses. Infectious diseases were widely ruled out, and no toxic agents were identified, leaving nutritional deficiencies as a possible factor. An ongoing review of this outbreak, conducted in collaboration with the USGS National Wildlife Health Center, has suggested that a vitamin A deficiency may have played a role.

Various eye disorders in birds can be caused by non-infectious factors, particularly vitamin A imbalances, as both deficiency and excessive intake can result in ocular issues. Vitamin A is a fat-soluble vitamin essential for maintaining healthy, moist eye tissues and supporting normal vision. When birds lack vitamin A, basal cells in the eye undergo squamous metaplasia, where moist epithelial cells get replaced by a different type of “flatter”, drier, skin-like epithelial cells, which may result

in dry, thickened tissues lining the eyes (Koncicki, et al. 2025). This damage can lead to conjunctivitis, swelling around the eyes, abnormal eye discharge, and even night blindness. In prolonged cases, milky secretions can build up and cause the eyelids to stick together. The cause of this potential vitamin A deficiency in fledgling songbirds also remains unknown. The timing of the 2021 songbird mortality event and this case in 2025 overlaps with the emergence of periodical cicadas, leading to the theory that consumption of these cicadas by fledglings could have caused the deficiency, but to date no connection has been proven. Given the increased number of reported ocular issues in fledglings coinciding with cicada presence, continued monitoring will be conducted in future summers to identify similar cases, particularly among nestling and fledgling passerines in areas experiencing substantial cicada emergences.



Figure 1. Initial Observation Photo

References

Koncicki A, Pietruszyńska M, Mieszczak M, Stephniowska J, Tykałowski B, Stenzel T. 2025. Selected issues in the anatomy and physiology of the avian organ of vision and eye disorders in farmed poultry. *Journal of Veterinary Research* 69(2), 241-247. doi.org/10.2478/jvetres-2025-0034

Research Highlights

The Arkansas Chronic Wasting Disease Deer Study is one of a few studies documenting the impacts of Chronic Wasting Disease (CWD) on eastern free-ranging white-tailed deer populations. Over a five-year period, researchers captured and monitored more than 400 deer and used camera trap arrays to estimate abundance across 3 study sites in northwest Arkansas. Each of these sites represented a population at different stages of CWD establishment, ranging from low to high prevalence prior to the start of the study. Study objectives included 1) estimating abundance of deer at each study site, 2) comparing survival and recruitment between presumed negative and CWD positive animals, 3) examining the differences in movement and home range sizes between presumed negative and CWD positive animals, 4) calculating CWD infection rates by age and sex, 5) documenting cause-specific mortality and comparing mortality rates between presumed negative and CWD positive animals, and 6) developing an integrated population model (IPM) that can account for CWD prevalence and effects on deer demographics to evaluate population trends and inform management decisions.

Overall, adult deer densities declined across all study sites. In the low-prevalence sites, estimated deer densities in 2024 were 5.0 deer/mi² with an average annual population decline of 15%. The medium-prevalence area had an estimated deer density of 3.7 deer/mi² with an average annual decline of 13%, and the high-prevalence area had an estimated deer density of 1.2 deer/mi² with an average annual decline of 13%. Comparing CWD positive and presumed negative deer showed that CWD can have serious impacts on metrics that contribute to population viability. Researchers found that CWD positive adult deer had a 45% annual survival rate, which is a 22% reduction in survival from presumed negative deer. A shorter lifespan also translates to reduced net reproductive rates, or the expected number of female fawns produced by an adult doe over her lifetime, coming out to an estimated 0.77 fawns for CWD positive does versus 1.20 fawns for presumed negative does. This shows that on average, CWD positive does reproduce at a rate below replacement which could contribute significantly to population declines, despite findings that adult female CWD status did not appear to affect fawn survival rates

or cause-specific mortality.

A novel finding of this research is that CWD can directly cause mortality in wild, free-ranging deer. In their evaluation of cause-specific mortality, the top cause in collared adult deer was harvest (31.5%), followed by disease (27.5%) and predation (25.0%). Of those caused by disease, researchers found that 19.4% of documented mortalities were directly caused by CWD, while the remaining 8.1% was caused by other diseases. The deer that died from CWD were typically in poor nutritional condition with minimal fat stores and noticeable muscle atrophy. Some of these individuals also presented with concurrent bacterial infections (pneumonia or sepsis) that contributed to morbidity. Other notable findings include larger average home range sizes in CWD positive deer and that those deer appear to be less attuned to their surroundings, selecting habitat with thermal or foraging advantages less often compared to presumed negative individuals.

The primary CWD-related takeaway from the IPMs is that CWD status strongly and negatively impacts deer survival, with annual survival rates reduced by more than half for CWD positive deer. These models also showed that direct CWD transmission is likely impacted by density when prevalence is low but quickly reaches an upper limit where an increase in the density of CWD positive deer does not continue to increase the probability of CWD transmission. This indicates that a CWD management strategy solely focused on population reduction may not be effective once CWD is endemic and prevalence is high. All-in-all, this study shows the long-term negative effects of CWD on the sustainability of deer populations in an eastern state. While the implementation and effectiveness of management strategies may vary from state to state, the effects on adult deer survival and reproduction should be noted and considered in all states, regardless of their CWD status (emerging versus endemic).

Learn More:

<https://www.agfc.com/hunting/deer/chronic-wasting-disease/cwd-research-and-resources/>

Jorge M, Gaya H, Jorge L, Jarosinski D, Ruder M, D'Angelo G, Chandler R, Chamberlain M. 2025. Arkansas Chronic Wasting Disease Deer Study: Final Report to the Arkansas Game and Fish Commission. Warnell School of Forestry and Natural Resources, University of Georgia, Athens, GA.



WILDLIFE HEALTH PROGRAM

Through the Wildlife Health Program, Kentucky Fish and Wildlife is dedicated to safeguarding the health of Kentucky's wildlife and fostering resilient ecosystems that support the well-being of both wildlife and people for generations to come.