

# FLORA FAUNA NEWS

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## ZPD Conducts Field Trial Treating Over 400 Deer at Infected Facility, Plans Expansion to Facility 19



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Chairman of Zoo Pharma Dynamics

Zoo Pharma Dynamics has initiated a significant field trial at facility 18, where we are treating over 400 deer in an infected area. We are currently in the third round of treatment, bringing the deer to the desired level to continue the field trial at the full dosage rate for an extended period. ZPD will commence the first round of dosing at the cwd infected facility 19, where we will treat 70 deer for an extended duration.

While treatment is the primary focus of our programs, we also dedicate our resources to identifying the cause. We are equally interested in understanding how this situation occurred and in finding a cure for the deer infected with prions. Determining or narrowing down the source is crucial for prevention and the implementation of future protective measures to avoid a recurrence.

Both facility 18 and 19 have a shared issue involving crows and ravens, which are scavengers with a wide migratory pattern.

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### Bird Facts



- Vulture poop is actually a sanitizer.
- Birds have been identified as vectors for a number of diseases.
- Avian scavengers play a role in the transmission and translocation of prion diseases.
- Crows don't digest prions, they transport them to other locations.



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Facility 18, which has been operational for 15 years, had never tested positive until recently. According to records, no deer have been transferred to facility 18 since 2015. Facility 18 has been testing for CWD since the inception of the testing program.

Facility 19 has only relocated its does once for breeding and then brought them back with the bucks they were bred to. The facility where the breeding occurred with the buck, and the subsequent permit transfer of that buck, has never tested positive for CWD.

Based on common sense, it appears that CWD was introduced into the area through means other than initially through the deer. We believe an external source brought the prions into the facility. Let's address the commonalities between both facilities. Crows and ravens are abundantly present and highly active. Additionally, both deer facilities are located in sheep country, with a mix of old and present-day sheep populations. Could crows and ravens have introduced the prion into the facility? Did their feces, which may have contained the prion, contaminate the landscape, thereby allowing the deer to come into contact? To find out, we will conduct tests on crows and ravens from both facilities, as well as various other samples from the facilities. What do we currently know about crows and ravens in relation to prions?

We have an incomplete understanding of the mechanisms by which transmissible spongiform

encephalopathy diseases, including chronic wasting disease (CWD) in North American cervids, spread. However, primary routes typically involve horizontal and environmental transmission. Birds have been identified as potential vectors for various diseases, wherein they ingest or are exposed to infected material and subsequently spread the disease agent to new areas after flying substantial distances. Recent research has indicated that American crows can potentially transport infectious prions in their feces. This common migratory scavenger in North America has the capability to introduce CWD infection in disease-free areas, potentially serving as an initial source of pathogen establishment. This raises questions about the role of avian scavengers, such as American crows, in the spatial dissemination of CWD.

It seems logical that crows could ingest infectious prion material while scavenging on CWD-contaminated carrion and translocate infectious material in their feces to CWD-free areas. A host of other pathogenic agents, such as *Mycobacterium avium*, *Mycobacterium bovis*, and avian influenza virus, have been shown to be transported considerable distances, via feces, by birds<sup>17-19</sup> Relatedly, migration and dispersal patterns of birds have been implicated with the rapid spread of West Nile virus across North America from east to west, with avian hosts transporting the virus to naive areas<sup>20</sup> Our recent work established that abnormal isoform prion proteins (PrP<sup>Res</sup>) remain infectious after passage through the digestive tract of crows<sup>21</sup> These results confirmed passage of PrP<sup>Res</sup> material through crows gavaged with infected material and suggested that crows can excrete infectious prions; bringing to light a new and potentially important transmission route.

*Prion*. 2013 Jul 1; 7(4): 263–266.

Published online 2013 Jul 3. doi: 10.4161/pri.25621

ZPD will continue its efforts to find solutions for preventing and curing CWD, as well as identifying the most viable source spreading the prion across the landscape. I firmly believe that deer are victims of the detrimental behavior of other species. Please follow us on Facebook, where we will provide regular updates on our progress. We are committed to presenting facts and maintaining transparency.



We hope you will enjoy our newsletter as we enjoy putting it together. We want you to find it informative and entertaining. If you have a topic or a question you would like addressed in the next newsletter please email us. We always appreciate pictures of the funny things animals will do. God Bless and Keep Animals Happy and Healthy!