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2020 Wildlife Disease Status Update

Missouri Department of Conservation Wildlife Health Program



Prepared for the Midwest Fish and Wildlife Health Committee

April 29, 2020



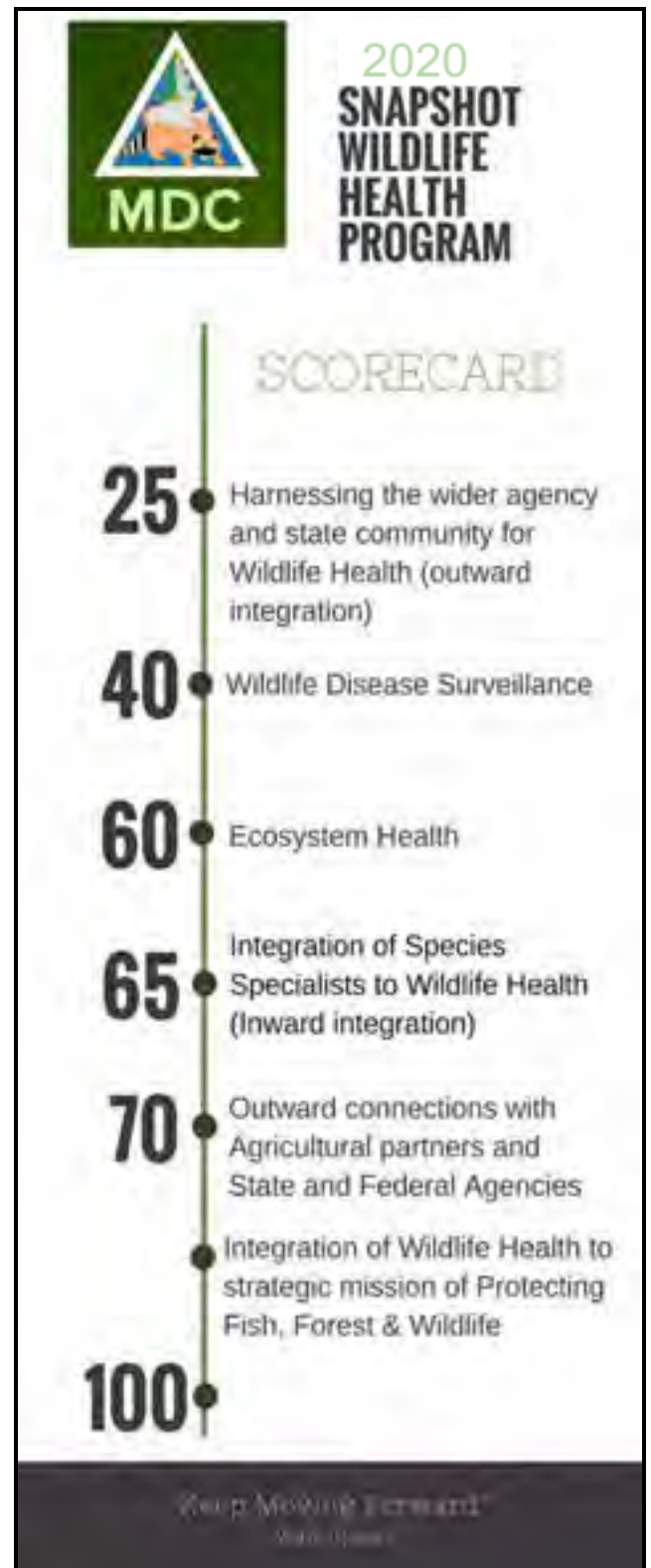
Executive Summary of 2020

Missouri's Wildlife Health Program year 7 was one of focused energy on Chronic wasting disease (CWD), overlaid with the challenge of COVID 19.

Missouri's Department of Conservation director, Sara Parker Pauley has a vision and is committed to Wildlife health as part of a strategic plan called, "21st Century Conservation Model for Success". Within this strategic plan minimizing the impact of invasive species and disease is one of the primary goals with definable milestones built into the plan. Moving from plan to action is always hard, we are feeling that in a daily way but remain hopeful as a necessary prerequisite for meeting our challenges.

On the CWD front 32,086 CWD samples were collected in the 2019-2020 surveillance year. 9,322 deer were sampled from cooperating meat processors and taxidermists including deer from management counties intended for donation to the state's "Share the Harvest" program. There were 46 positive deer detected in previously positive counties.

Wildlife health continues to have identity challenges within the agency and challenges related to inadequate facilities. Integration of Wildlife Health, Aquatic Health, and Ecosystem health remains a viable strategy and is finding its way into the conscious operations of the agency.



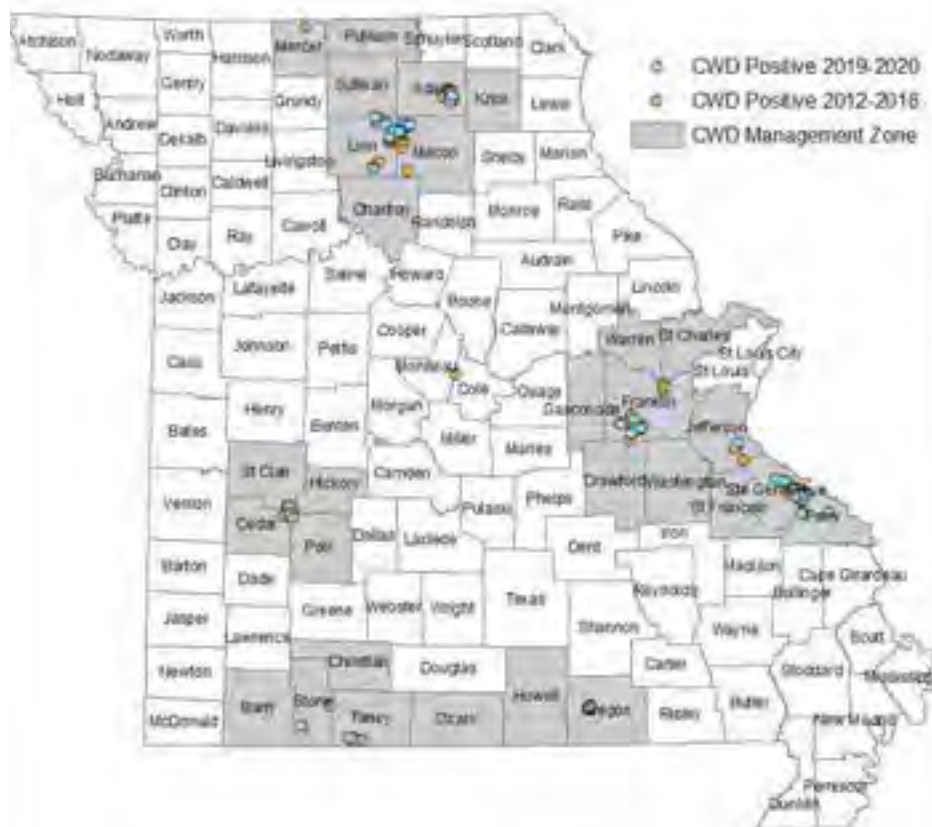


Chronic Wasting Disease Update:

Surveillance

- For the 2019-2020 CWD surveillance year to date (July 1, 2019-June 30, 2020) 32,086 deer were sampled for CWD throughout the state.
- Of the total deer sampled:
 - o 25,793 were from CWD Management Zone counties (figure 1).
 - o 6,290 were from counties outside of the CWD Management Zone.
- The majority of deer (29,269) were hunter-harvested.
 - o Approximately 18,800 hunter-harvested deer were sampled from the CWD Management Zone on November 16th and 17th as part of “mandatory sampling” requirements.
 - o 9,322 deer were sampled by cooperating taxidermists and meat processors, including deer from CWD Management Zone counties intended for donation to the state’s “Share the Harvest” donation program.
- Additionally, the following deer were tested:
 - o 217 “sick” deer
 - o 140 roadkill deer
 - o 2,396 deer harvested during post-season culling management efforts
- A total of 46 CWD-positive deer were detected, all in previously “positive” counties.

Figure 1. CWD detections to date in Missouri & counties in the 2019 CWD Management Zone.





Management

- Targeted culling (or sharp shooting) was implemented between January 16th and March 15th, after the close of regular deer seasons. During this time, 2,399 deer were removed from locations within 2 square-miles of previous CWD detections.
 - Culling was implemented in 15 noncontiguous areas in the state
 - Over 1,300 landowners voluntary participated
- Of the 46 CWD-positive deer detected for the 2019-2020 season, 21 were deer removed during post-season culling management efforts.

Regulations

The following new regulation amendments and additions are effective for the upcoming hunting season in Missouri:

- Hunters in CWD Management Zone counties will not be allowed to transport intact deer carcasses, or carcass parts with the spine or brain attached, from the county of harvest unless they are traveling to a permitted meat processor or transporting the intact head to a taxidermist.
- Meat processors and taxidermists throughout the state will be required to dispose of carcass waste in a permitted landfill.
- Hunters who harvest deer and elk outside of the state will not be able to transport high risk deer/elk parts into the state, except for hunters who are transporting intact heads to a taxidermist.

CWD Research Effort begun:

We began an effort to improve testing for CWD in conjunction with the University of Missouri's Veterinary Diagnostic Laboratory and Engineering School. In a nutshell, there are 3 parts to the research:

Collection of positive tissues other than RPLN's from free ranging deer that are removed during targeted culling.

Standing up a Rt Quic laboratory to evaluate the other tissues above including carcass blood and blood products.

Development of a Biosensor that is based on Microfluidic nano technology.

Additionally, we are cooperating on the Multi state prion strain typing project at CSU.



Amphibian and Reptile Diseases in Missouri

Amphibian Chytrid Fungus-*Batrachochytrium dendrobatidis* (Bd):

The Department has been testing for amphibian chytrid fungus since 2006, and the fungus is widespread throughout the state with high frequencies in hellbenders, central newts, and cave amphibians. There have already been a few publications related to surveillance of this fungus in Missouri and additional publications are anticipated within the next couple of years.

Salamander Chytrid Fungus-*Batrachochytrium salamandrivorans* (Bsal):

Considering the severity of impacts that the introduction of *Bsal* to North America could have on biodiversity and amphibian conservation, the Department has been testing for this fungus over the past several years and will continue to test as needed. Most attention in Missouri has been on hellbenders and central newts although a few other amphibians have also been tested. To date there have been no detections in Missouri and it is believed this fungus is unlikely to occur within the state. We will continue to sporadically sample if animals are captured with symptoms.

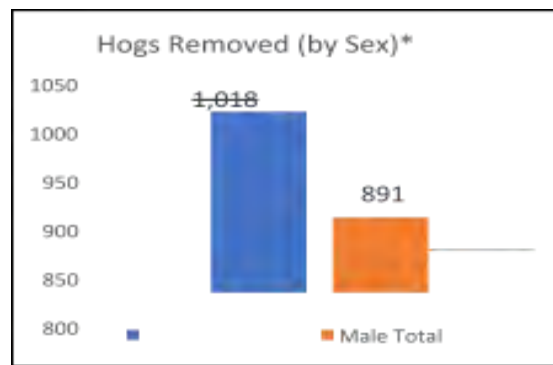
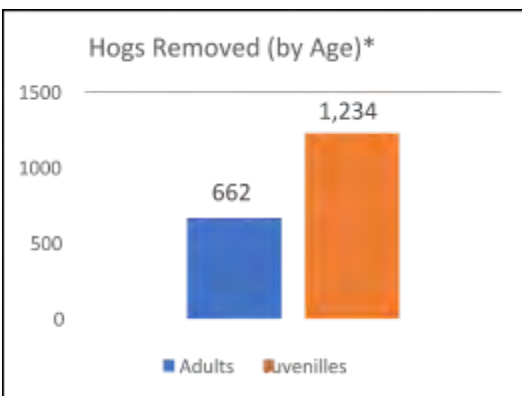
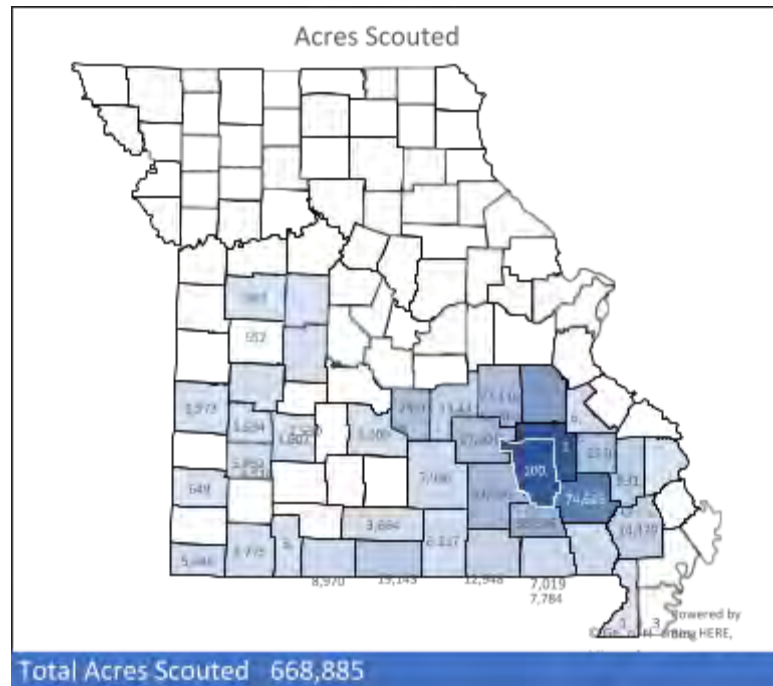
Ranavirus:

Recurring outbreaks of Ranavirus-FV3 continue on pallid sturgeons at a Department fish hatchery, but has not been detected on amphibians within and around the hatchery. The first confirmed case of FV3 on an amphibian in Missouri occurred in 2016 from a tadpole that was kept in captivity at a state park, and a second confirmed report occurred on some frogs from another hatchery. Considerable testing has occurred for Ranavirus on hellbenders with no confirmed cases in Missouri. Additional surveillance will occur on hellbenders, as well as on amphibian and turtle mortality events as warranted.

Snake Fungal Disease-*Ophidiomyces ophiodiicola*:

With the increased attention of this fungus throughout the United State, the Department has been testing for this fungus on snakes for the past five years. Although not a new disease, this fungus was commonly known as skin rot or blister sores observed in snakes both in captivity and in the wild for many years. It is relatively unknown if the reported cases today are due to increased awareness and testing or if this fungus is increasing in snake populations.

The fungus has been detected on a variety of snake species and is relatively widespread throughout Missouri. Information collected to date in Missouri is comparable to other documented cases in other Midwestern states. It has been detected in higher frequencies in timber rattlesnakes and documented in the state endangered prairie massasauga. Species most at risk appear to be those that typically overwinter in communal den sites. Surveillance for the



Missouri's Feral Hog Partnership set up the first Incident Command Structure in 2020 for a unified increased removal effort. The supplemental Winter Operation will close at the end of March. So far, that effort combined with the continued normally scheduled feral hog removal efforts, has culminated in 340 landowners assisted, 2,904 feral hogs removed, and nearly 669,000 acres scouted for feral hog damage in the first quarter of 2020. The counties with the most acres scouted were Iron and Reynolds with over 100,000 acres each, and Wayne county with nearly 75,000 acres scouted.

*Not all removed reports had age or sex data available

This report was created by the Missouri Feral Hog Elimination task force.

