

Using “Zone Defense” to Contain CWD

Montana’s approach to slowing the spread of the deadly deer disease combines surveillance, testing, transportation restrictions, and increased harvest in key areas. **By Andrew McKean**

Chronic wasting disease, the incurable brain-melting malady that kills every member of the deer family it infects, has become a normal—if unwelcome—part of Montana’s wildlife management landscape over the past two years.

The disease, and efforts to slow its spread and understand its character, are now as much a part of Montana Fish, Wildlife & Parks operations as counting spring fawns or maintaining hunting access. Since CWD was first detected in the state’s wild deer in 2017, the department has had to ensure that hunters understand how to adjust their hunting and game-care expectations (see “Postcard from CWD Country,” page 34), and recognize the long-term risk the disease poses to Montana’s deer, elk, and moose populations.

Hunting seasons that open this September will test the department’s CWD man-

agement strategy. FWP wants to contain the disease, for as long as possible, within a dozen counties along Montana’s northern and southern borders, and in the Libby area where CWD was recently discovered. The strategy aims to keep CWD an anomaly for most of the state’s deer and elk hunters.

At the same time, the department hopes hunters don’t dismiss CWD simply as an inconvenience, because it is in fact hugely significant to big game hunting in Montana.

“Chronic wasting disease potentially affects everything from hunting participation to population management, and, though it has not been shown to transmit to humans, people are concerned about any risk to human health,” says John Vore, chief of FWP’s Game Management Bureau. “It represents a watershed mark in our department’s history. There’s our work before CWD, and then there’s our response following its discovery in

Montana. There’s no putting the genie back into the bottle or wishing that we didn’t have it. It’s here, and now we are dealing with it.”

ZONE DEFENSE

One way Montana has responded to the “genie” is by establishing CWD Management Zones. In these areas where the disease has been detected, the department wants to contain it by boosting the harvest while also requiring hunters to take special precautions with harvested game. This “zone defense” approach, as the department calls it, prohibits hunters from removing whole carcasses, whole heads, brains, and spinal columns of deer, elk, and moose harvested within the zones. This will decrease the movement of infectious game animal parts to new areas.

Scientists believe CWD proteins (prions) likely spread between animals through body



STAYING IN THE ZONE Key to FWP’s aggressive response to CWD is preventing deer parts that could contain the disease from leaving special CWD Management Zones. This “zone defense” approach, as the department calls it, prohibits hunters from removing whole carcasses, whole heads, brains, and spinal columns of deer, elk, and moose harvested within the zones. Opposite page: Though mule deer are generally the focus of CWD management in Montana, recent discoveries of the disease in whitetails near Libby has broadened the focus.

LEFT TO RIGHT: TOM DICKSON/MONTANA OUTDOORS; BRETT FRENCH; JAIME & LISA JOHNSON



fluids like saliva and urine, either by direct contact or via soil, food, or water. Hunters can spread CWD by transporting infected brains, lymph nodes, and spinal matter and then dumping the diseased tissue into new areas where deer, elk, or moose live.

The department's immediate goal is to enlist hunters' help to ensure that CWD doesn't slip through cracks in the zone defense and spread throughout the state. Emily AlMBERG, FWP's wildlife disease ecologist in Bozeman, says the long-term task is to understand how CWD will affect Montana's elk, moose, mule deer, and white-tailed deer populations. "It's such a slow-progressing disease, with the time from infection to death lasting two years or more, that it could take decades before we see population declines," she says.

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Colorado and Wyoming, where the disease has infected deer and elk herds for decades, have reported annual mule deer population declines ranging from 20 to 45 percent in herds with high CWD prevalence. "Clearly, CWD poses a serious threat to our deer and elk herds. Even if declines in Montana are just half what they are seeing in other states, it's still worrying," says Vore. "Throw in a tough winter, severe drought, or heavy predation, and we could see drastic declines."

If there's any comfort in playing defense against chronic wasting disease, it's that FWP has plenty of teammates. CWD was identified as a fatal disease in 1967, but in the last two decades it has expanded to cover nearly half the country.

Each state wildlife agency has responded in its own way. Two decades ago, Wisconsin tried eradication, intending to kill every whitetail in the area where the disease first appeared. One reason the strategy failed was CWD's ability to survive without a host, lying

dormant in soil until a new generation of deer occupied the area and became infected.

Wyoming chose a more passive response and simply monitored the expansion of CWD in its deer population. That hasn't worked either; recent population declines threaten the existence of some deer herds.

Vore says FWP has learned from other states and is carrying out an approach tailored to Montana's unique culture and landscape. "This state has a history of providing abundant hunting opportunity, which tends to reduce the number and age of bucks in the population," says Vore. "We see that as a key tool to limit the spread of CWD. We want and need hunters as partners."

Happily, existing season structures require only minor tweaks to focus more hunting pressure on herds inside the CWD Management Zones. "With mule deer, bucks are two to three times more likely to be infected, and more likely to transmit that infection, because they're contacting so



WARNING SIGNS? A mule deer doe near Red Lodge exhibits possible CWD symptoms: emaciation, drooping ears, and a lack of fear.

many does during the rut," Vore says. "We're promoting buck harvest in those zones, but we also want to reduce overall deer densities with higher doe harvest. There's good evidence that the lower the population around infection sites, the better we can slow its spread to neighboring areas."

It makes sense. The fewer deer on the landscape, the less chance an infected deer will come in contact with another.

The department wants to pare down populations during the regular five-week hunting season by liberally issuing B licenses and offering free CWD tests for deer taken inside Priority Sampling Areas (see map at right). FWP officials believe that the carcass-transport rules will prevent humans from transmitting the disease elsewhere.

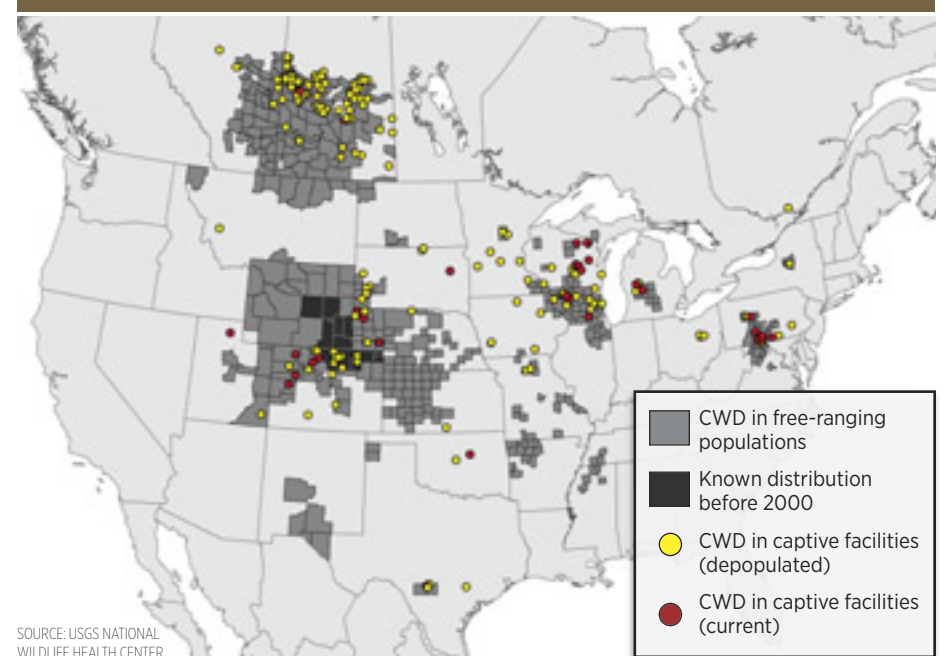
EYES WIDE OPEN

In addition, this fall FWP will monitor deer herds along parts of the Wyoming border for infection. Crews will set up check stations in FWP's Region 7 for testing hunter-harvested deer and elk to see if CWD has entered Montana's southeasternmost corner.

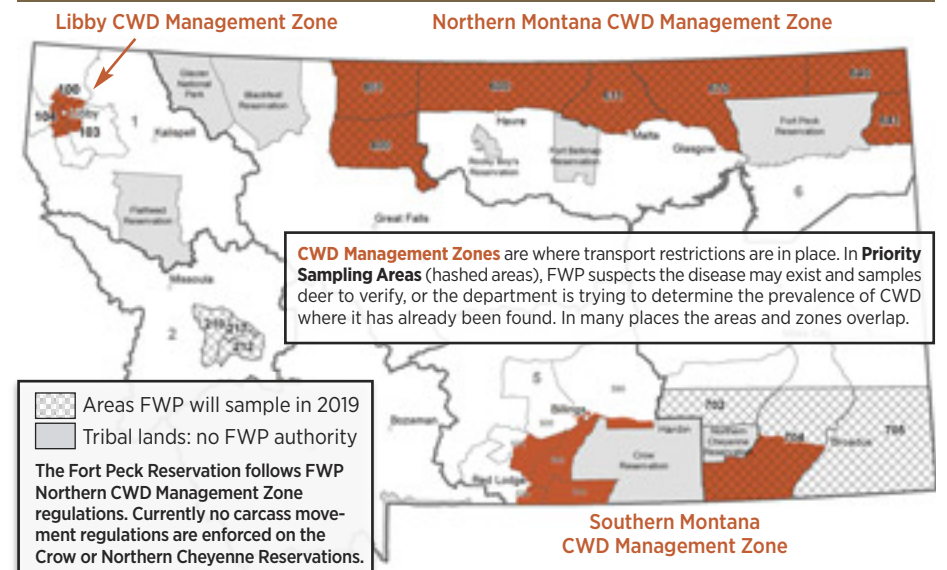
"Ongoing surveillance is also a key part of Montana's response to CWD," says Vore. "Testing hunter-killed animals will show us where the disease is. Then we can focus additional hunting pressure to determine 'prevalence'—the percentage of a population that's infected." With that knowledge, Vore adds, FWP can tailor the next steps, whether using hunters to reduce animal densities or taking a more aggressive containment approach.

So far, the main "vector" (an organism that carries and transmits an infectious disease) for CWD transmission in Montana appears to be mule deer, says AlMBERG, though the recent confirmation of CWD in Libby-

CHRONIC WASTING DISEASE IN NORTH AMERICA



CWD MANAGEMENT ZONES AND PRIORITY SAMPLING AREAS



area whitetails means hot spots of infection among that species are possible, too. "Whenever we detect CWD, we end up closely monitoring mule deer, white-tailed deer, and elk," she says.

Vore compares CWD to cancer. Like cancer, the disease spreads undetected for some time, but once it reaches a certain level, drastic actions are required to control it.

"We're in the early years of this 'cancer' here in Montana," he says. "We still have a

chance to slow its spread. I don't think we'll ever get rid of it, but we can manage it. The next few years will determine the pace and pattern of its pathology. Eventually, it may spread throughout the state, but I'm hoping we can control how quickly that happens."

And if CWD spreads more widely? "With the help of hunters, I believe we can keep its prevalence within herds low enough to prevent major population declines," Vore says. 🐾

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LOOKING FOR ANSWERS At the FWP pathology lab in Bozeman, disease ecologist Emily AlMBERG holds lymph nodes ready for testing at Colorado State University. FWP has submitted brain, spinal, and lymph tissue from hundreds of deer in an effort to learn where the disease exists in Montana and its prevalence in those areas.



LEFT TO RIGHT: MORGAN JACOBSEN/MONTANA FWP, LISA BALLARD