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Tiny pest puts local deer population in trouble

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KITTITAS COUNTY - In 2002, local state Department of Fish and Wildlife officials began receiving reports of black tailed and mule deer with hair loss syndrome (HLS) or "hair slip" out of the lower Manastash area.

Later, deer carcasses were found with the same problems in other areas as the syndrome spread. No one at the time knew what the cause was.

The deer population began declining around 2004. WDFW officials estimate about 50 percent of the deer population in Yakima and Kittitas counties has been depleted since 2004.

Not all the causes behind this sudden and sharp drop in numbers are known, but according to a report by WDFW, the general consensus is an exotic species of chewing louse, Bovicola tibialis, is to blame.

Wildlife enthusiast, and past president of the Local Field and Stream Club, Bill Essman, testified in front of the Kittitas County Fish and Wildlife Commission that he had seen the decline in the local deer caused by the louse infestation and HLS first-hand.

"It wasn't countywide then, it was isolated," Essman said. "No one really knew what the cause was. When I really noticed was four years ago."

This variety of louse is typically found only on fallow deer in Europe. According to WDFW reports, fallow deer had been farmed in Central Washington and some may have escaped, inadvertently introducing the lice into the local environment.

"This is not a native louse. Today we don't allow (fallow deer) in," WDFW Wildlife Biologist William Moore said. "The state outlawed game farming. There were a few game farms currently running and those got grandfathered in."

Moore also said this louse is very "species specific." Meaning they've evolved to survive on a particular species.

Once a deer is infected, it may host the lice for months. WDFW studies have discovered a pattern in the louse infestation. Deer seem to be most affected by the lice in late winter and early spring.

Moore said this pattern might be the result of poor overall health of the deer after harsh winter conditions. He said the deer might be just too weak to fend off the lice.

The Yakima/Kittitas County deer mortality/hair slip fact sheet said the chewing lice caused deer to begin "obsessively" grooming or rubbing. Yellow or white balding patches then begin to appear. These balding areas make the deer more susceptible to environmental stresses.

At first the louse was thought to be one of several native species already found in wild populations in the U.S. However the increasing severity of the problems caused WDFW officials to send samples to be identified.

James Mertins is an entomologist with the U.S. Department of Agriculture, and he was the first to discover that an exotic species had invaded the area.

Several cases dealing with Bovicola tibialis scattered throughout the country and in Canada have been reported but are much different than those in Yakima and Kittitas counties.

"This is a new situation in Eastern Washington," Mertins said. "It's causing considerable amounts of hair loss - before it hadn't caused any real problems in other cases.

"There is some kind of problem that is only affecting deer in that area."

Mertins isn't certain what the contributing factors are but he confirmed the deer in this area are greatly affected.

"This came right out of the blue and no one had any idea until they sent me samples." Mertins said.

Mertins said the crux of the matter is there are about a half dozens species of lice native to the deer populations in the U.S. When an exotic species comes in, it is easy for it to get a foothold and not be identified. Mertins noted that many wildlife enthusiasts think the lice problem is unusually bad, when in fact it is another species.

Central Washington University associate dean of biological sciences David Darda said the introduction of exotic species is not always a disaster.

"(Exotic species) can have virtually no effect or they can have a tremendous effect," Darda said. "Some species don't do well in a new environment, then others succeed. It can be catastrophic."

Mertins described one reason this species may be thriving.

"It is a parthenogenetic, meaning every louse can reproduce and lay eggs." Mertins said. "There are no male or females. So the louse can populate very quickly. This is sort of a worst-case scenario."

Mertins said there are probably only about a half dozen species worldwide that reproduce this way.

Similarly, the western half of the state and Oregon has issues with exotic lice. The culprit in those cases is Damalinia (cervicola). This species is almost exactly the same, except it originates in Asia not Europe as Bovicola tibialis does. That means two separate species of parthenogenetic lice, of about a half dozen species known worldwide, are here in the state.

According to a 2007 thesis by Oregon State University graduate student Jason Robison, Western Washington's and Oregon's problems began much earlier than in Kittitas and Yakima counties. Black-tailed deer started showing signs of HLS in the early 1990s.

In his 14-month study, Robison found trends almost identical to those seen in Yakima and Kittitas counties. Robinson and others treated infected captive deer successfully but concluded the methods could not be feasibly applied to wild populations.

Darda said the deer population's ability to overcome this louse infestation will depend heavily on the group genetic diversity.

"If you've got a decent genetic variety, you may have a large die-off initially, but as time goes by the (genetic) variety can improve the deer's ability to fight off the louse," Darda said. "It'll be interesting to see what happens in five years."

According to WDFW reports, "No one knows if or when the deer population will bounce back."

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