If you’ve been following elk hoof disease, you probably know that sporadic cases of limping elk in southwest Washington were first reported to the Washington Department of Fish and Wildlife (WDFW) during the late 1990s to early 2000s. Then the disease broke out most notably in 2008, not too far from where it was first observed.

Over the past decade, elk in the Mount St. Helen’s area have been hit hard by the disease and are the primary concern. But recent disease surveillance indicates that there is more to the story. A second concern is now arising, detection of elk hoof disease over a broader geographic range.

In 2018, when the WSU College of Veterinary Medicine took the lead on elk hoof disease research, the disease was generally thought of as a very significant, yet local issue, centered in the Mount St. Helen’s area. But the disease had also been detected in several counties in western Washington, and also by the Oregon Department of Fish and Wildlife (ODFW) in northern Oregon.

As part of our investigations, we wanted to determine the distribution of the disease. Were there elk in other areas affected by the disease that were going unreported? Was the disease spreading? These questions are important to address to understand the disease currently, as well as gain insights into its past and future.

We collaborated with WDFW and ODFW to collect hoof samples from elk. We also partnered with Idaho Department of Fish and Game (IDFG) and California Department of Fish and Wildlife (CDFW) to collect hooves from normal elk to use for comparison with the diseased hooves.

To our surprise, in addition to receiving normal hooves from each of the four states, we also received abnormal hooves that tested positive for elk hoof disease. These findings greatly expand the geographic area in which the disease is known to occur. They also challenge some of our assumptions and raise more questions about the disease.

One of the biggest questions is whether these detections are just sporadic cases that have been occurring for a number of years without advancing to outbreaks, or even being noticed. Or, on the other hand, are these new introductions of the disease that might lead to outbreaks in the future, similar to what happened in southwest Washington? By comparing and contrasting the situation in southwest Washington with other areas, we hope to learn more about factors that contribute to an outbreak occurring. This information could help clarify causes that can then be addressed through management actions.

Another question is whether these new detections represent spread from areas where the disease is established in elk herds, or if the disease is emerging independently in each new location. Management response could differ if the disease was spread by natural movement of elk and human movement of elk carcasses (or other infectious material) versus if, for example, disease spillover from domestic species was repeatedly occurring.
Unfortunately, over the past two years we have learned that elk hoof disease is not only a local issue, but also a regional issue encompassing the Pacific West. While the highest prevalence of disease still occurs in areas of southwest Washington, it is unknown what will happen in other areas where the disease occurs. Fortunately, we have still not detected the disease in wildlife species other than elk. But these new detections underscore the importance of continuing to work with state management agencies to conduct disease surveillance and monitoring.

Map of elk hoof disease cases reported on the Washington Department of Fish and Wildlife website in April 2018. Red dots are positive cases and yellow are negative. Cases from Oregon are not shown.

Cases of elk hoof disease as of May 2020. Red dots indicate location of positive cases, and red shading indicates counties where the disease has been detected. Up-to-date maps are accessible on our website. Data presented is collected in collaboration with Washington, Oregon, and California Departments of Fish and Wildlife, and with Idaho Department of Fish and Game.