



Lice on Coyotes and Wolves in Alberta 2014/15

In winter and spring 2014/15 trappers reported an unusual number of coyotes with patches of damaged hair on their shoulders. Reports were widespread and trappers were concerned.

From January to March 2015 trappers reported an unusually high number of coyotes with patches of damaged hair on the shoulders. A few reports of similar hair damage on wolves also were received.

Affected coyotes were reported widely from northwest, central, and southwest Alberta, yet the description was consistent. Trappers saw damage in a triangular area over the shoulders. The guard hairs were missing and the underpelt was slightly matted. One affected pup monitored with trail cameras started with a small triangular patch of damaged hair over the shoulders in November 2014. By late March 2015 the pup had no guard hairs on the shoulders, neck, chest, and front legs. All other coyotes on the cameras looked normal.

One trapper in central Alberta reported damaged hair on 42 of 142 (30%) coyotes harvested in February 2015. This was a significant loss of income and, extrapolated across the affected areas in Alberta, provides significant perspective to the problem.

While it is difficult to tease out whether there was an actual outbreak

or whether more reports were received due to a higher profile of the issue, it seems likely that 2014/15 was a particularly bad year for hair damage in coyotes.



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So what is going on?

Sarcoptic mange is well-established in wild canid populations across Alberta and occurs to differing degrees each year. See our Factsheet #9 on Sarcoptic Mange for more information. The shoulder damage on coyotes is NOT mange.

As early as 1992, a few Alberta trappers reported damaged hair on wolves that did not look or smell like mange. The Fish and Wildlife Disease Unit was able to collect dog lice, *Trichodectes canis*, a parasitic insect, from 4 of 6 wolves examined since 1992.

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Small golden brown lice can be seen crawling through the hair on affected animals. They spend their entire life on their host. Each female can lay up to 100 tiny white eggs that they attach to individual hairs. If you look very closely, you may see small white dots on some hairs on damaged pelts.

Infested animals scratch, rub, and groom to find relief, but this also leads to damaged hair. Presumably damage on the shoulder is from scratching with the hind legs and in the groin is from licking and chewing.

Over the years Fish & Wildlife examined several coyote and wolf pelts that had damage consistent with dog louse infestation. However, as in 2014/15, we do not always find lice. Although lice can survive low temperatures even on dead wolves or coyotes - in one study in Alaska most lice were still alive after 26 hrs at temperatures below freezing, lice often leave the carcass and are long gone by the time the animal gets to the diagnostic lab. For some reason we seem to have better luck finding lice on wolves than on coyotes.

In affected areas, guard hairs are shriveled, dark, and easily fall out of the hair follicle. At a microscopic level, follicles that produce guard hairs are atrophied and inactive. They are not dead, they just look dormant. The guard hair is gone yet the follicle is not producing a replacement hair. In addition, the epidermal layer of the skin is thinner in affected areas. These changes imply a metabolic reaction initiated by the canid rather than anything mechanical that the lice are doing to each hair.

Can we do anything about dog lice in wild canids? During the 1980s and 1990s, dog lice spilled over from domestic dogs into wolves on the Kenai Peninsula and eventually spread to adjacent areas of interior Alaska. In some local

populations, 100% of the wolves became infested, often with moderate to severe hair damage. Initial efforts to eradicate the lice slowed but not stop their spread across the state. In 2005 a new approach aimed at controlling rather than eradicating dog lice was implemented. Treated baits of moose and lynx muscle laced with antiparasitic drugs were distributed repeatedly at wolf dens and rendezvous sites. As reported in the *Journal of Wildlife Management* 77(3), 2013, within three years lice were eliminated from the 19 infested wolf packs within the 13,000 km² study area. However, adapting this approach to coyotes over a broad area and in a wide range of habitats across Alberta seems unlikely and unfeasible.

Fur buyers across Canada are familiar with 'shoulder patches' and have seen them for many years. The occurrence is quite widespread across the country. However they report the patches seem to be more common in recent years, and perhaps more likely to occur on coyotes than wolves and are never seen on foxes.

Should we be concerned? Usually lice do not compromise the health of infested animals. The primary concern over lice in wild canids is the economic loss to trappers and secondarily the aesthetic concerns for wildlife viewers. Affected pelts can be submitted to fur buyers but will bring a lower price.

Additional information about **Sarcopic Mange** and **Lice on Mammals** can be found in the Fish and Wildlife disease Fact Sheets at <http://esrd.alberta.ca/fish-wildlife/wildlife-diseases/>.

North Dakota also has a nice factsheet specific to dog lice on coyotes at <http://www.gf.nd.gov/wildlife/fish-wildlife/wildlife-diseases/other/trichodectes>