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Northern Rockies Big Game Recovery Project

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Could Widespread Tapeworm Infestation Destroy Life In The Northern Rockies?



Photo Above - Hydatid Cysts On Moose Lungs

Published in 1963, Farley Mowat's book, **"Never Cry Wolf"**, probably did more than anything written before or since to spread and perpetuate the misconception that wolves only kill the old, the sick, and the weak - making herds healthier. While published as a true story, the book has been proven to be pure fiction, in which the author wrote himself into the lead role, as a research scientist sent alone into Canada's wild north to determine if wolf predation was the cause for the dramatic loss of hundreds of thousands of caribou.

In reality, he was the junior member of a research team, which indeed did come to the conclusion that the herds were being decimated by wolves. However, in his fictitious story, Mowat reached a completely different finding. He blamed the loss of the great herds to the spread of diseases and parasites - and there is likely some truth to that. What he failed to share was the origin of all those cysts found on the internal organs of the caribou he claimed to have dissected.

The Canadian wolves that the U.S. Fish and Wildlife Service brought down to put **"Wolf Recovery"** in Montana, Idaho and Wyoming on the fast track to success also brought with them a tiny tapeworm, known as ***Echinococcus granulosus***. Those wolves were supposed to have been treated for such parasites before being released into the Greater Yellowstone Area in 1995 and 1996, and eventually in other areas. Apparently that was not done, or the treatment was ineffective. By 2008, more than 60-percent of the wolves tested in Montana and Idaho were infected with the tapeworms, and a more recent study in the Yellowstone area revealed that approximately 80-percent of the wolves tested positive for the parasite.

What are the dangers of having this parasite in the Northern Rockies ecosystem, and how does the parasite spread?

Many of the wolves tested have been literally infested with thousands of the *Echinococcus granulosus* tapeworms, which deposit their eggs in the digestive tract. Each and every time an infected wolf defecates, the pile of scat left behind is loaded with thousands of the microscopic eggs. These are easily spread far and wide by mountain breezes, rain, on the shoes of hikers, by the rushing waters of a mountain stream, on the tires of a mountain bike, or in the fur of wolves and other animals - including dogs.

Elk, moose, deer and other big game, as well as livestock, ingest eggs which have settled on blades of grass, on the leaves of plants on which they forage, or perhaps while taking a drink. The eggs are then carried by the blood stream throughout the body, where they can form the hydatid cysts that Farley Mowat wrote about in his book. Hunters in the Northern Rockies are now finding those same cysts on the lungs and livers of big game they harvest.

Should they be concerned about eating the meat from these animals?

Dr. Valerius Geist, a wildlife ecologist with the University of Calgary in Alberta, says, *"Native people have been eating hydatid infected moose, caribou and deer forever. The meat is safe."*

He points out the cysts contain thousands of tiny tapeworm heads floating in a liquid. Geist claims that in elk, deer, moose, caribou, etc., neither the cyst's liquid, nor the tapeworm heads are anything to worry about. Stating they cannot infect you.

So, what's the danger?

Humans can contract hydatid disease only through the ingestion of *E. granulosus* eggs, which originate from the scat of wolves, coyotes and other canines infected with the tapeworms. One of the most common carriers to humans is the family dog, which can bring those eggs right into the family home. Dogs are notorious for rolling in the scat of other canines. And even if they don't, a long run through the grasses of where wolves live could mean bringing in dozens or hundreds of those eggs in their fur or hair, where they are deposited in the carpets where children play. Or, they could be transferred directly to humans when the dog is loved on, and returns the affection with a good healthy lick or two.

Likely one of the more common ways for humans to ingest the eggs is to have them on their hands when eating a sandwich, a piece of fruit, or maybe even something as delightful as a sweet glazed donut. Dr. Geist points out that hydatid cysts don't pose that big a threat when just one or two of the cysts form on or in the lungs or liver, where they are encapsulated by the host tissue, and may eventually calcify. However, he points out that a hydatid cyst that forms in the brain can prove lethal. He also notes that multiple cysts forming on the lungs, heart or on long bones can become medically problematic, interfering with organ function and possibly could overcome the immune system.

Dr. Geist has stated emphatically, "***Should the cyst burst (internally), then the liquid will generate a severe allergic reaction. Anaphylactic shock may be the consequence. And that can kill the patient on the spot!***"

Farley Mowat's claim that the hydatid cysts and other parasites were the reason for the precipitous crash in caribou numbers could be shown to be true to a certain degree. However, unless the internal organs of the animals were riddled with the cysts, it's unlikely that animals died directly due to those cysts. The most likely consequence of the caribou ingesting *E. granulosus* tapeworm eggs, and having multiple cysts form on internal organs, was that it impeded the ability of the animals to elude a pack of wolves for any distance. And that is especially true if a number of large cysts had formed on the lungs, weakening their function and lessening their air capacity.

A better question might be, is the same thing now happening with the elk, moose, deer and other big game populations in the Northern Rockies?

In 2011, the LOBO WATCH website sent an e-mail out to the directors of both Montana Fish, Wildlife and Parks and the Idaho Department of Fish and Game, plus several dozen wildlife managers, regional and department supervisors, and to board members of the game commissions in these two states, to inquire whether or not these wildlife agencies have been monitoring the occurrence of hydatid cysts in game harvested by hunters. And if MT FWP or IDFG has not been monitoring this threat to our wildlife resources, to ask "***When are you going to start?***"

That e-mail also went to hundreds who have also been impacted by wolf depredation, and many who now continue to live with the threat of contracting hydatid cysts. Those recipients included the heads of national and state wildlife conservation organizations, outfitters and guides, elected officials, and many sportsmen.

One, a rancher on the Flathead Indian Reservation, e-mailed back with details about a pair of wolves killing one of his calves. He also shared that the National Bison Range, which is located inside the Flathead tribal lands, had recently reported the bighorn sheep and pronghorn herds have had newborns with ***"some sort of lung disease"***.

Robert Fanning, the founder of the Friends of the Northern Yellowstone Elk Herd, also sent out an e-mail to those wildlife agency recipients with a similar statement, ***"Many, many big horn sheep have been killed by WY agency 'scientists' this year to analyze so called 'problems with their lungs'. Why haven't those results been released to the public?"***

As residents of the Northern Rockies have learned more about the spread of the ***Echinococcus granulosus*** tapeworm, and the growing occurrence of hydatid cysts being discovered inside harvested big game animals, the more many now feel that the large number of wild sheep which have been destroyed due to ***"pneumonia"*** may have been killed for the wrong reason - or to cover up something. Likewise, most feel that it is only a matter of time before the number of reported cases of hydatid disease among humans begins to escalate. As rare as the disease may be in the Lower 48 States, in other parts of the world where there are large numbers of parasite carrying wolves, the number of reported cases is much higher.

Across Alaska and Canada, where an estimated 50,000 to 75,000 wolves roam the North woods and tundra, the rural human population is extremely sparse. In all of the Yukon's 186,661 square miles, there are only about 34,000 residents - of which, some 27,000 live the capital city of Whitehorse. That gives the other 7,000 or so rural dwellers a lot of elbow room. Next door in the Northwest Territories, around 42,000 people have 519,734 square miles to roam. Nunavut offers even more remote living, with just over 31,000 people sharing 808,185 square miles. Across the Earth's northern ice cap, in Russia's northern regions rural human inhabitation is even more sparse in many equally as expansive wild areas - areas with as many as 100,000 to 150,000 wolves.

As sparsely populated as these areas may be, with so few people living amongst such large wolf populations, the number of people infected by hydatid cysts is much higher than in the Northern Rockies. The residents of those remote regions live where wolves are more prevalent, and where their contact with wolves, or what wolves have left behind, is much greater.

Dr. Geist says this is largely due to the high dependency on dogs by residents of the Far North. In much of this country, the only winter travel is via dog sled, and most families in the northern regions of North America and Asia keep and maintain a large number of sled dogs - which are generally fed the offal and raw discarded portions of caribou, reindeer and moose - many of which were very likely infected with hydatid cysts. While those dogs are very rarely allowed into the homes, and generally kept well away from human dwellings, those who work and handle them very likely carry many *Echinococcus granulosus* tapeworm eggs back into the home. Geist says that one major source of egg transfer from those dogs to humans is probably the handling of fecal soiled sled harnesses.

The Public Health Agency of Canada recognizes the danger of being exposed to *E.g.* eggs to be so great, the agency has issued a Material Safety Data Sheet for the handling of *Echinococcus granulosus* tapeworms for researchers or health and medical professionals. (That MSDS can be found at <http://www.phac-aspc.gc.ca/lab-bio/res/psds-ftss/msds54e-eng.php>)

In Montana and Idaho, state officials have all but ignored the health threats posed by the tiny tapeworms which are being contracted by a growing wolf population. And the eggs of those tapeworms now cover the landscape by the billions. Perhaps that is why the wildlife agencies have so seriously downplayed the real number of wolves in each of these states, maybe they are afraid that sooner or later someone is going to start doing some real math.

In Montana, FWP has had the propensity to precede wolf population estimates with the wording "*at least*", which means they really don't have a clue about the real number of wolves in the state, but feel that a very acceptable, and comfortable, minimum guess is whatever figure they happen to be using at the time. In 2011, they claimed there were "*at least*" 653 wolves in the state. However, simple math indicated the true "*at least*" number to be more like 1,500 to 1,700, with the possibility of 2,000 to 2,500 wolves in the state. Still, using FWP's overly conservative number, if 60-percent of the wolves were infected, at that time there were approximately 392 wolves spreading *E.g.* eggs across nearly all of the western one-third of the state...on a daily basis.

One estimate stated that each and every time a wolf defecates, another 2,000 to 3,000 of those eggs contaminate the region. And if each wolf left just one pile of scat a day, an average of nearly 1,000,000 tapeworm eggs were released into an environment being shared with elk, moose, deer, livestock, pets and humans. Now, consider the possibility, or likelihood, that

FWP was way off base with their low ball estimate of wolf numbers, and the real number was closer to 2,000 wolves - **"at least"** 60-percent of which carried and spread the threat of the tapeworm. Making the situation worse is that those eggs can survive for months on end, meaning that western Montana is now one great big **E.g.** incubator, contaminated with billions of the tapeworm eggs...waiting for a new intermediate host to come along. Then, the cycle is complete, and begins again when wolves kill an infected animal and feeds on the cyst covered organs and flesh.

In most regions of the world where cystic hydatid disease has been most prevalent, it has been where very few people have been exposed to the environment of tens of thousands of wolves. Here in the Northern Rockies we now have a new dilemma - and that is millions of people sharing the environment of just several thousand ***Echinococcus granulosus*** infected wolves. Montana is now home to right at 1-million people, while Idaho is home to just over 1.5-million residents. Yellowstone National Park claimed that more than 3-million people visited in 2011, and Glacier National Park welcomed more than 2.2-million visitors that year. According to the University of Montana, altogether 10.5 million travelers visited Montana in 2011. If the tourism of Idaho and Wyoming are also thrown into the equation, 15 to 20 million people could have been exposed to the ***E. granulosus*** eggs now covering the land, wafting around in the mountain breezes, or flowing downstream in the waterways of the Northern Rockies.

If these people had been forewarned of the possible danger, how many of them would have elected to visit other regions of the country?

What has made the Intermountain West such a draw in the past has been its abundance of wildlife, which is now fast disappearing - and has been ever since the introduction of non-

indigenous Canadian wolves - and the *Echinococcus granulosus* tapeworm. With the percentage of wolves contaminated with the tapeworm now on the rise, it is very evident that an extremely high number of the elk, moose, deer and other big game harvested by hunters have become intermediate hosts, and carry the burden of tapeworm filled cysts on and in their internal organs.

Bob Fanning, who was a 2012 Montana gubernatorial candidate, says if the public health issue of *E. granulosus* is not confronted directly, openly, honestly and professionally with science instead of politics to stop the cover up of hydatid disease, not only would Montanan's completely lose trust in MT FWP, but they would stop obeying that agency as well.

He added, *"The grey wolf has been forced on us and because of the lethal disease they can introduce to the human population, we have a natural, lawful right to defend ourselves, our children and grandchildren."*

LOBO WATCH feels it is time to share this disaster with those who have brought it to us. During the 2013 fall hunting seasons, hunters are encouraged to carry a heavy duty plastic trash bag with them, and to deliver any cyst covered internal organs found in game directly to MT FWP or IDFG regional offices, and demand that they be studied. These agencies should have been monitoring the occurrence of such cysts ever since wolves were first released into the Northern Rockies, but have not. Now it's time to force them to do their job.

If taking those organs to FWP or IDFG isn't possible, Val Geist says that a hunter should build a hot fire and burn those infected internal organs to break the *E.g.* cycle. - **Toby Bridges,**
LOBO WATCH