Chris Taggart

From: bjhoy@localnet.com
Sent: Monday, October 14, 2019 11:43 AM
To: Ravalli County Commissioners Office
Subject: Data and Photos for WTD by Eagle Project biologists
Attachments: Data and Photos for WTD Examined by Eagle Project Researchers 2018-2019.pdf

Dear Fish, Wildlife and Parks Commissioners,

I am attaching the data and photos collected by biologists who worked on the Eagle Project, for which accident killed WTD carcasses were collected, examined and used to attract eagles and other birds to be photographed. The Eagle Project had permission to collect and stake out the carcasses with cameras aimed at them. In the process, they examined and documented whether the genitalia on adult males they collected were normal or in some way abnormal. They also took photos of some of the genitalia that they considered to be the most concerning.

They provided me with their data and photos. I calculated the prevalence percentages for the various abnormalities. Of the 40 adult male deer they examined, 35% had ectopic testes because of malformed or unformed testicular bursa. Ectopic testes do not produce viable sperm on ruminants because the testes are located against the warm body wall of the animal. Additionally, 30% of the male deer had misaligned bursa, with the left bursa directly forward of the right bursa, whether vertical or horizontal. Only 5% had no bursa at all formed on the external skin, but biology books state that 5% should raise a red flag.
With 14 or 35% of the 40 examined male deer having ectopic testes, that is 7 times what is supposed to raise a red flag. Also, I think that any adult male human would agree that having bursa on the external skin that are so short and difficult to see that a dark blue glove had to be placed directly behind them in some of the photos to even show where the bursa were on the skin is not normal. As you will see by the photos, those male deer had very short horizontal bursa that were difficult to see in a photo, without putting the dark glove behind them. Veterinarians say that with horizontal bursa, the corresponding testis will be heat damaged by being held against the body wall.
Consequently, the male does not produce viable sperm.

The other very important finding by the Eagle Project biologists was the sex ratio on the 84 fawns they examined was highly skewed in favor of females (33M/67F). Yes, alarmingly, they found the sex ratio to be
28 or 33% males to 56 or 67% females.

A normal sex ratio according to biology books on ruminants is 52M/48F per 100 young. In the data collected by myself and my colleagues who worked on our published studies, from 1995 through 2001, the sex ratio was 60M/40F per 100 fawns or quite highly skewed in favor of males.
Then from 2002 through 2010, the sex ratio went back to more normal, just slightly in favor of males. It continued that way from 2011 through 2013 at 56M/44F per 100 fawns. Then suddenly in 2014, we found the sex ration became highly skewed in favor of females at 37% males to 63% females (37M/63F) in the 41 examined fawns born in spring of 2014 through 2017.

The Eagle Project examined twice as many fawns in 2018-2019 than my colleagues and I examined between 2014 through 2017 and they found the sex ratio even more highly skewed in favor of females than we found.
However, their findings verified our finding of a highly skewed sex ratio in favor of females.

We haven't been able to determine what happened in 2013 and each year since that suddenly so highly damaged male sperm and young prior to conception and during fetal development. This trend should concern everyone because it seems to be getting worse and having no viable males in wildlife populations can eventually cause extinction. It doesn't make trophy hunters too happy either.

Biology books have always stated that the sex ratio is normally slightly in favor of males because the male fawns are more likely to be killed than the female fawns. I would think that a sex ratio so highly skewed in favor of females needs to be considered when making hunting regulations. Also, as my colleagues and I have previously reported, the birth defects we found on our study WTD are being documented on many wild and domestic mammals all over the U.S., Canada and Mexico and in countries on other continents. This indicates that the problem is an environmental toxin (or toxins) being excessively used world wide. In eastern U.S. the most common facial bone malformation seems to be an underdeveloped lower jaw resulting in an overbite. Here in western Montana, the most common facial bone malformation is an underdeveloped upper jaw or on ruminants, the premaxillary bone being underdeveloped resulting in an underbite.

The Eagle Project data is totally independent. They were not working for the MDFWP and they were not working for my colleagues and I. They observed in 2017-2018 that the genitalia looked underdeveloped or malformed and because this was concerning, they kept the detailed data in 2018-2019 on the adult male genitalia. They had always documented the sex of the fawns they picked up. I asked them to share the data with my colleagues and me and they did. Now I am sharing it with you in hopes that it will be useful in your work.

Also, I should mention that the lead biologist, Kate Stone, on the Eagle Project was recently diagnosed with breast cancer. Breast cancer was found in a study published this month to be caused by exposure to minuscule amounts (parts per trillion) of glyphosate, the main ingredient in Roundup. One of eight women get breast cancer now and it is said to likely increase soon to one of five. Breast cancer has gone up lock step with the birth defects on the wildlife, not likely a coincidence.

My website has our studies, the South Dakota State University Study on WTD and many photo documents of the birth defects on wildlife
(www.judyhoy.com) which might be of help to you in your work as commissioner.

Sincerely,
Judy Hoy

EAGLE PROJECT DATA FOR ACCIDENT-KILLED WHITE-TAILED DEER 2018-2019

All data and all but 3 photos were by the Eagle Project Researchers headed by wildlife biologist, Kate Stone.

Total male deer examined = 40 (100%)

Placement of the bursa, if present, on the external skin.

Male deer with bilateral bursa = 26 (65%)
Male deer with misaligned bursa = 12 (30 %)
Male deer with no bursa formed at all = 2 (5%)

Position of both bursa and testes.

Male deer with bursa and testes in a vertical (normal) position = 13 (32.5%)

Male deer with bursa and testes tipped backward (somewhere between vertical and horizontal) = 13 (32.5%)
(If bursa are long enough to hold the testes away from the heat of the body wall, tipped backward bursa do not affect the male's ability to successfully reproduce.)

Male deer with bursa and testes in a horizontal position, against the body wall , which is medically referred to as ectopic = 14 (35%)

All of these male deer would have heat-damaged sperm and included the following testes and bursa conditions:
Male deer with one testis ectopic because of no or almost no bursa formed for that testis = 4
Male deer with both testes ectopic because of no or almost no bursa formed for either testes = 5
Three of those 5 males had slight bumps where the bursa should have been and 2 had nothing where the bursa should have been.
Male deer with both testes in completely tipped back, short, horizontal bursa and ectopic against the body wall = 5
Thus 35% of the adult male deer had ectopic testes, considered a serious birth defect by all medical doctors, veterinarians and medical literature consulted. Also, 5% of a serious birth defect is supposed to raise a red flag according to medical books.

Condition of penis sheath on the external skin.

Male deer that had the penis sheath examined = 16 (100%)
Male deer with normal length penis sheath = 2 (12.5%)
Male deer with significantly short penis sheath = 14 (87.5%)

(NOTE: On human male newborns with a similar birth defect, the entire penis is shorter than normal, called a micropenis in medical terms.)

DATA FOR WTD FAWNS 2018-2019

Sex Ratio on 84 examined WTD Fawns
Total male fawns = 28 33%
Total female fawns = 56 67%

Condition of scrotum on the 15 male fawns examined.

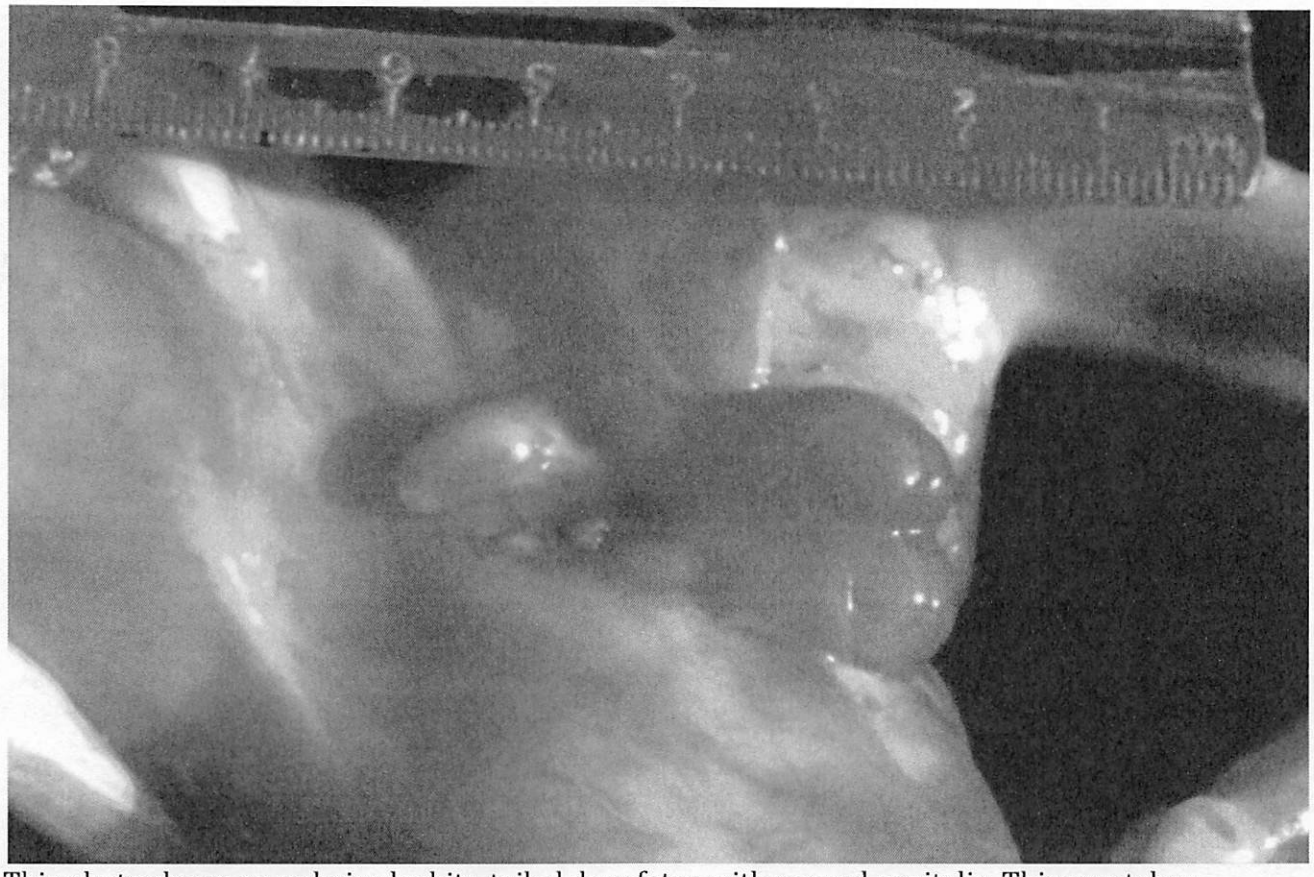
Vertical = 6 (40%) Tipped = 5 (33%) Horizontal = 4 (27%)

Bilateral = 10 (67%) Misaligned = 5 (33%)

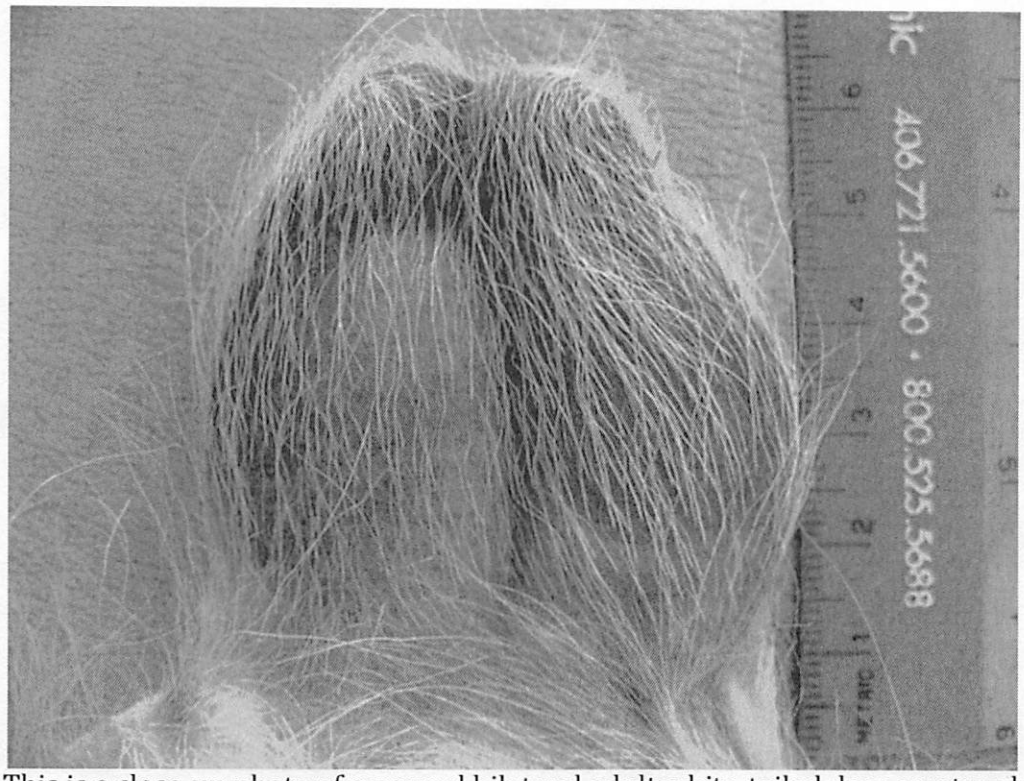
In bursa = 11 (73%) Totally Ectopic = 4 (27%)

THE TWO MOST IMPORTANT FINDINGS WERE 35% OF ADULT MALE WHITE-TAILED DEER EXAMINED HAD TESTES HORIZONTAL AGAINST THE BODY WALL, SO WOULD HAVE HEAT DAMAGED SPERM AND THE SEX RATIO FOR 84 WHITE-TAILED DEER FAWNS EXAMINED WAS 33 MALES TO 67 FEMALES. NORMAL SEX RATIO IS 52M/48F.

PHOTOS OF NORMAL GENITALIA OF A UNHAIRED FETUS AND TWO NORMAL ADULT MALE DEER TAKEN BY JUDY HOY FOR COMPARISON WITH THE PHOTOS TAKEN BY THE EAGLE PROJECT TEAM BELOW.



This photo shows an unhaired white-tailed deer fetus with normal genitalia. This was taken about two months before the fawn would have been born after it was removed from an accident killed white-tailed deer doe. The penis sheath is normal in length and the scrotum is comprised of bilateral normal sized bursa. This absolutely proves that male deer fawns are born with whatever genitalia configuration and size that is formed on them early in fetal development. Photo taken by J. Hoy.



This is a close-up photo of a normal bilateral adult white-tailed deer scrotum being measured for length or distance down from the body. Note that this scrotum has a neck or narrower area between the bursa and the body, so the testes are contained completely away from the heat of the body wall. This photo is for comparison with the scrotums in the photographs below, except for the first photo, which has bilateral bursa, which appear to be normal in length or distance down from the body. Photos on this page taken by J. Hoy.

This shows normal adult white-tailed deer genitalia from the side. Note the length of a normal penis sheath which is close to 7 cm on the external skin of an adult male deer.

ALL PHOTOS BELOW WERE TAKEN BY THE EAGLE PROJECT RESEARCHERS

These photos mainly illustrate some of the adult male white-tailed deer the Eagle Project team found with short bumps or no scrotum and consequent horizontal testes.

#12WTDAM Normal length scrotum with bursa which hold the testes away from the body wall. The penis sheath is somewhat short for an adult male WTD. A normal penis sheath on the external skin of an adult male WTD used to be between 5 and 7 centimeters (See photo by Judy Hoy above showing a normal penis sheath on an adult deer. The penis sheath on this deer is about 3 cm or half as long as normal.

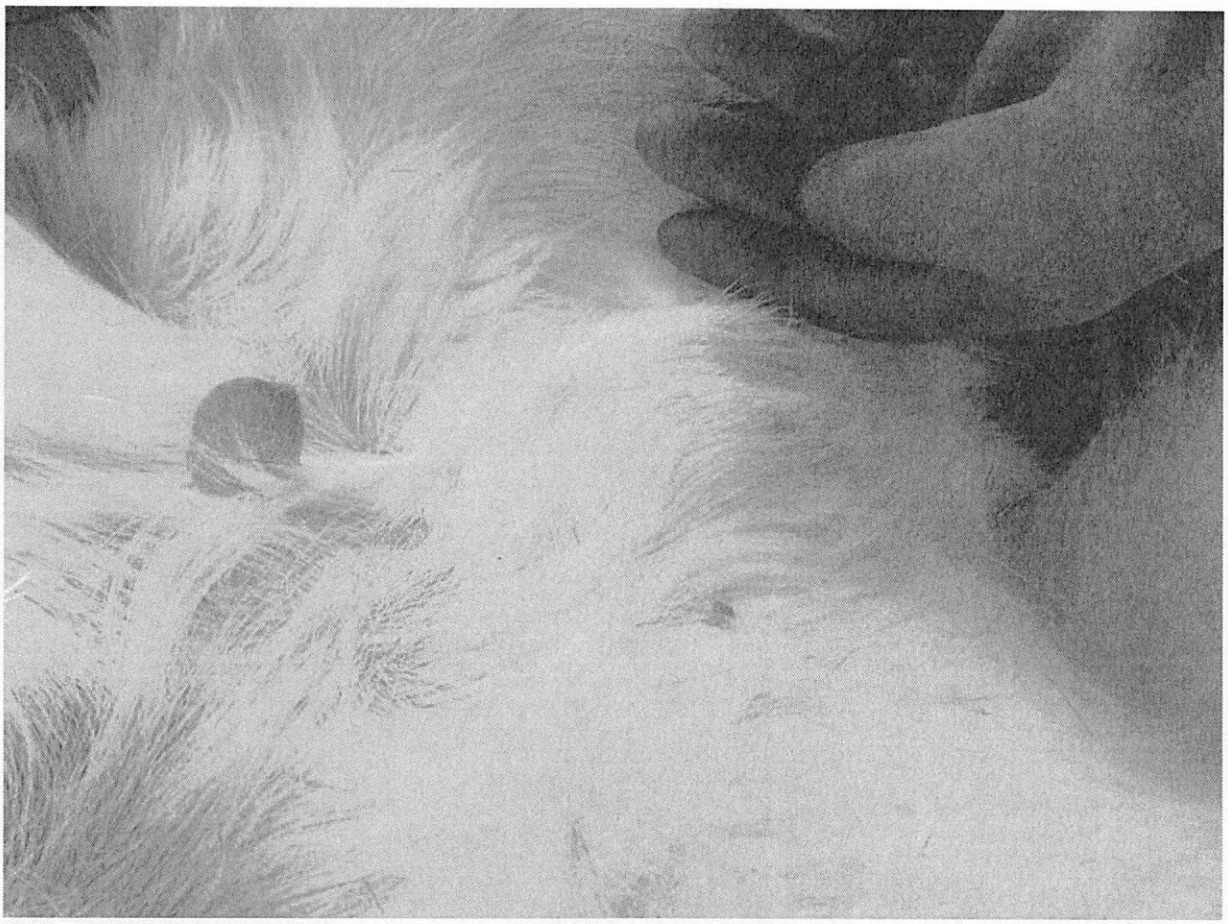
#2KWTDAM There is a bump where the scrotum should have been as a result of the testes being horizontal under the skin. The researcher's glove was behind the extremely short bump to make it show in the photo.

#5WTDAM This adult male had no visible scrotum and very short penis sheath.

#25WTDAM This adult male was just like the previous one, no visible scrotum, ectopic testes and a shorter than normal penis sheath.

#15WTDAM This adult male was similar to the previous two with a slight bump and rough hair where the scrotum should have been. The penis sheath is so short that it is barely visible.

#8WTDAM This adult male has tipped back bursa forming a short bump with both testes ectopic. The penis sheath is longer than those in the previous photos.



#1WTDAM This deer has similar tipped back bursa with a short bump and ectopic testes. The penis sheath on this deer is very short for an adult, even shorter than a normal newborn fawn.

#3WTDAM This deer has only one bursa formed and it is very odd in shape. The right testes is completely ectopic and the penis sheath is very short.

#24WTDAM This deer has two bursa with the left directly forward of the right. The right bursa is extremely short and the right testis is mostly ectopic. The penis sheath is short.

#10WTDAM The bursa on this deer are tipped far back so the testes are held against the body wall. The penis sheath is very short.