

September 2015



# Veterinary Services Newsletter

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### Wildlife Disease Laboratory

#### Veterinary Services

##### Staff

**Branch Supervisor/Wildlife Veterinarian:** Dr. Mary Wood

**Laboratory Supervisor:** Hank Edwards

**Senior Lab Scientist:** Hally Killion

**Senior Lab Scientist:** Jessica Jennings-Gaines

**Brucellosis Lab Assistant:** Kylie Sinclair

**Wildlife Disease Specialist:** Terry Creekmore

**TWRC Manager:** Matt Huizenga

**Wildlife Biologist:** Cole Hansen

**Biologist:** Sam Lockwood

#### Surveillance updates:

Brucellosis surveillance in hunter-killed elk is well under-way. By the end of September 9,973 brucellosis kits had been mailed to hunters that were successful in drawing a cow license within our target hunt areas. An additional 491 kits will be mailed in the coming weeks to those hunters who hold late season tags. To date we have received 66 samples in the laboratory with 55 of those being suitable for testing.

CWD surveillance in deer, elk and moose is just getting started with the Oct 1<sup>st</sup> seasons. Ninety-nine samples have been received thus far; mostly from archery hunters and through deer municipal reduction programs. So far this season, one CWD positive animal has been identified; a cow elk from hunt area 6.

AI surveillance for this fall has included 53 samples collected on the North Platte River drainage and 54 samples collected in the Bear River drainage (Bear River collected by APHIS Wildlife Services). No samples have been collected in the Cheyenne River Drainage, but efforts are underway.

Other activities include presentations given to the National Academy of Sciences and the Annual GYA Brucellosis meeting on Brucellosis surveillance of elk and bison in Wyoming.



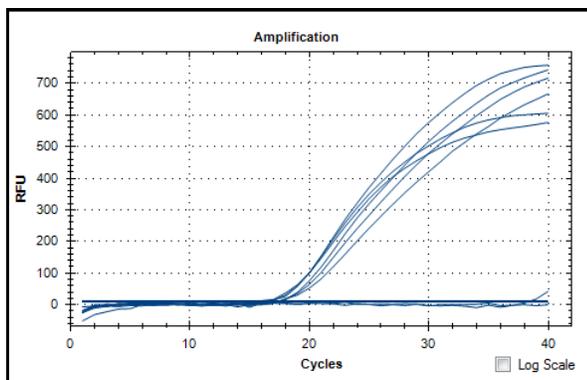
Headed to the post office with our cargo trailer loaded with over 4,500 blood kits

#### New diagnostics:

Hally has developed and is currently validating a new diagnostic PCR (polymerase chain reaction) test to identify the leukotoxin produced by *Bibersteinia trehalosi*.

Why is this a big deal? A leukotoxin is a substance secreted by bacteria that prevents the immune system from killing it. It works by actually killing the host's white-blood cells, which allows the bacteria to take over the host and cause disease.

*Bibersteinia trehalosi* is a known cause of pneumonia in bighorn sheep and based on our research, it's significance as a serious bacterial pathogen is under-recognized. Once Hally's assay is running as part of our standard diagnostic battery, we can start to document just how common this organism is and how it may affect the health of bighorn sheep herds in Wyoming.



Real-time PCR DNA amplification graph of pneumonia-causing bacteria of Bighorn Sheep.

## Thorne/Williams Wildlife Research Center

### New Sheep Pastures Nearly Complete

September was a busy month here in the canyon. The fencing contractors have finally started construction of our new sheep pastures and are expected to be finished by mid October. For the past 2 years, our sheep have been kept in smaller corrals in the central portion of our facility where there was extra fencing. Their new pasture will be 3 times the size of their current corrals and sheep will have access to rock piles and water for a more natural setting. The rams will have a separate pasture with natural rocky areas for climbing. The entire sheep pasture will be double fenced with overhangs to assure that no local sheep in Sybille canyon can come into contact with our research sheep.



*The new sheep pasture is double fenced with overhangs.*



*The interior of our new sheep handling facility.*

### Sheep Handling Facility Construction Continues

While the fencers have been out working on the pasture, we have kept ourselves busy with the construction of our new sheep handling facility. Currently we are making the alleyway and chutes. This is a very challenging task, considering there is very little information available on the best way to work bighorn sheep! This part of the building phase has let us get a little creative and welding and fabricating is a lot more fun than hanging drywall.

### University of Wyoming Capture Lab

At the end of September, we taught a wildlife immobilization lab for senior wildlife management students. The goal of this course is to give students hands on experience and practical information in wildlife management to prepare them for their future careers. For this lab, we give a lecture on techniques and issues surrounding wildlife immobilization. Then students come out to our facility and learn how to load darts and practice firing dart guns. Finally, they help us dart an elk and monitor it while it's immobilized.

This is a great introduction to immobilization for students that gives them practical hands on experience while still in a controlled setting. When we immobilize our facility animals for teaching, we always choose animals that already need to be sedated for management or animal care purposes. This allows us to provide appropriate care for the animals at our facility while also providing an educational opportunity.



*Senior UW students learn how to fire dart rifles as part of their management class.*

## Wildlife Necropsy Summary

Twenty-five wildlife cases were submitted for diagnostics in September.

Species	Date Received	County	Diagnosis
Mule Deer	9/2/2015	Lincoln	Adenovirus
Mule Deer	9/2/2015	Lincoln	Adenovirus
Mule Deer	9/2/2015	Lincoln	Adenovirus
Mule Deer	9/2/2015	Lincoln	Undetermined
Mule Deer	9/2/2015	Lincoln	Pending
Mule Deer	9/2/2015	Lincoln	Pending
Mule Deer	9/2/2015	Lincoln	Pending
Mule Deer	9/2/2015	Lincoln	Pending
Mule Deer	9/2/2015	Lincoln	Pending
Mule Deer	9/2/2015	Lincoln	Pending
Cottontail Rabbit	9/2/2015	Weston	Coccidiosis (Eimeria spp.)
Caspian Tern	9/2/2015	Park	Emaciation
Bat	9/2/2015	Platte	Rabies Negative
Cottontail Rabbit	9/2/2015	Campbell	Tularemia
Pronghorn	9/2/2015	Laramie	Chronic abscesses
Mountain Lion	9/10/2015	Bighorn	No evidence of disease
Cottontail Rabbit	9/15/2015	Fremont	Tularemia Negative
Cottontail Rabbit	9/16/2015	Park	Tularemia Negative
Cottontail Rabbit	9/16/2015	Park	Tularemia
Mule Deer	9/17/2015	Carbon	Adenovirus
Beaver	9/17/2015	Fremont	Tularemia
Mourning Dove	9/25/2015	Laramie	Avian Paramyxovirus
Mountain Lion	9/28/2015	Platte	Pending
Pronghorn	9/28/2015	Converse	Pending
Mountain Goat	9/30/2015	Teton	Pending

### Case of the Month – Waterborne Tularemia

Wyoming Game and Fish Warden, Linnea Sailor, responded to a call about a dead beaver in a creek north of Dubois. This was reportedly the third beaver found dead in this small creek. A necropsy evaluation identified tularemia as the cause of death for this beaver. This was the first documented case of aquatic tularemia in Wyoming this year. Waterborne tularemia is transmitted through infected water and typically infects beavers and muskrats. There have been six cases of terrestrial tularemia in cottontail rabbits this year from Platte, Albany, Campbell and Park Counties. Terrestrial tularemia is transmitted by biting flies and ticks. Humans can acquire the infection from bites of infected flies or ticks, handling infected animals or eating under-cooked meat of infected animals.