October 2017

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

Thorne/Williams Wildlife Research Center (TWRC)

Veterinary Externship

Julian and Ilya on a field trip to learn about black footed ferrets in Wyoming.

We were kept busy this month with our new veterinary externship program co-hosted by Colorado Parks and Wildlife and the National Park Service. There were seven fourth year veterinary students in the program and two students were stationed with our branch for the month of September. The goal of this program is to provide opportunities and experience for veterinary students considering careers in wildlife. We had a lot of fun hosting our two veterinary students this month: Ilya Slizovskiy, a veterinary student studying at CSU and Julian Keles, a veterinary student studying at the University of Veterinary Medicine in Vienna, Austria. Each student completed a project focused on evaluation of new technology applications for wildlife management that benefits the WGFD as well as helps them to further their own education.

Trimming hooves on our captive bighorn sheep.

Bighorn Sheep Sampling

We handled our captive bighorn sheep this month for hoof-trimming and respiratory sampling. Our veterinary students learned the ins and outs of routine veterinary care for captive wildlife, bighorn sheep handling and immobilization, and general sample collection and handling. After sampling was complete, they followed the samples to our wildlife health laboratory in Laramie and learned how diagnostic testing is done. All the sheep looked great and they have clearly been enjoying the larger enclosures and increased natural forage in our new bighorn sheep facility.

Immobilization Training

At the end of September, we taught a wildlife immobilization lab for senior wildlife management students at UW. 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 year, our two veterinary students helped out and had the opportunity to gain experience in teaching sample collection and monitoring of immobilized wildlife.

Julian and Ilya help to teach UW undergraduate students about wildlife handling and sample collection.

Julian helps with handling and sampling elk .

Elk Sampling

We also sampled our facility elk for a new CWD study focused on further understanding genetic influences in CWD. Our veterinary students learned about elk immobilization and how to collect rectal biopsies and other samples from elk.

Other Happenings

In between sampling animals and conducting trainings, we also had some time to start construction of a deck on one of the facility houses, complete bids on new flooring for our conference room, and install an electric gate opener on our bison catch pen to improve human safety when handling our bison.

Wildlife Health Laboratory

Human Brucellosis case: Last fall a hunter was infected with brucellosis while field dressing his elk near the East Fork of the Wind River. It took health professionals several months to determine this poor fellow had brucellosis (still a very rare human disease in the United States), and it ultimately fell on our laboratory to confirm the diagnosis with PCR. We sent DNA from the bacterial culture to the National Veterinary Services Laboratory to compare the genotype to other isolates from Wyoming elk and bison. After several weeks the genotype came back as definitely originating from elk or bison from the Greater Yellowstone area, but it happens to be a genotype that we have never documented before!

Human brucellosis is a rare disease in the United States, and therefore it is very rare for a hunter to contract the disease from their harvested elk or bison (the disease is generally inactive during the hunting seasons). But, this is a good opportunity to remind everyone to wear their gloves when field dressing and to wash hands (hand sanitizer works in a pinch) when you get back to your vehicle/camp. It's also good to limit your exposure to brucellosis by not opening the uterus or any swollen joints. For more information, please see our write up on brucellosis and reducing risk of exposure https://wgfd.wyo.gov/WGFD/media/content/PDF/Vet%20Services/Brucellosis-Public-Health-Risk-Reduct-public-072817.pdf

Wildlife Health Laboratory

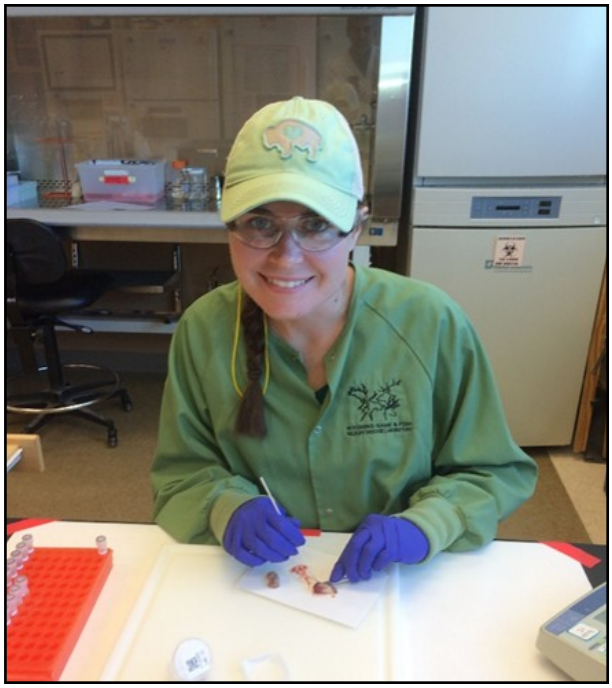
CWD Surveillance
CWD testing is in full swing with almost 350 samples tested as of October 4th! With the renewed interest in CWD as a threat to our deer and elk populations as well as new research on transmission to macaques, we are expecting a significant increase in the number of samples this year.

Brucellosis Surveillance
Blood samples have already started to roll into the laboratory with an even 150 samples received so far. We will be continuing our efforts to research the suitability of hemolyzed samples for brucellosis testing.

Personnel Changes
Wildlife Health Laboratory Scientist, Hally Killion, has decided to broaden her horizons by accepting the bacteriologist position with the Wyoming State Veterinary Laboratory. Hally began her Game and Fish career in 2004 as a Fish Health Inspector with the Wildlife Forensics and Fish Health Laboratory, then in 2009 transitioned over to the Wildlife Health Laboratory to focus on wildlife disease. During her tenure, Hally has made numerous significant contributions to the Wildlife Health Laboratory, especially in the development and validation of several molecular diagnostic assays as well as being a driving force in preparing the laboratory for ISO-17025 / NAHLN certification. Hally made huge contributions in developing the laboratory's diagnostics for respiratory disease in bighorn sheep – including the development and publication of a PCR to identify the leukotoxin of B. trehalosi; an under recognized cause of respiratory disease.

Hally's last working day with the department was October 2. While we are very sad to see her go, the good news is that she is only moving to the laboratory next door, and we are looking forward to future collaborations on wildlife disease diagnostics with Hally in her new position!

To help out in the laboratory until Hally's position can be filled, we have hired two new worker bees to help out with CWD testing and blood processing for this year's brucellosis surveillance. Jessica Roy is a University of Wyoming student who fits in 15-20 hours a week in the lab between taking a wildlife classes, and Rachel Fanelli is a part-time UW employee who is hoping to begin a Master's program next fall. Stop by and welcome them if you are in the neighborhood – we are really glad to have them on board!



New Wildlife Health Lab employees Jessica Roy (left) and Rachel Fanelli (right).

Other Happenings: The lab was inspected by the National Animal Health Laboratory (NAHLN) on September 14 as part of our efforts to meet the quality control standards of ISO-17025. We are happy to report that our laboratory passed the inspection and we are looking forward to final approval in the next 4-8 weeks. One of the requirements of the NAHLN was to formalize our laboratory reporting. You will likely notice the new reports on the CWD results page of our website (thanks to Karen Thompson and Jason Edwards!), and they will accompany all donations and positive CWD test results.

Wildlife Necropsy Summary

Twelve diagnostic cases were submitted for necropsy during September. Seven additional cases are pending.

Species	Date Received	County	Diagnosis
Bat	9/1/2017	Fremont	Rabies positive
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Mule Deer	9/7/2017	Natrona	Chronic Wasting Disease
Swainson's Hawk	9/7/2017	Albany	West Nile Virus, Avian pox
White-tailed Deer	9/19/2017	Washakie	Bluetongue virus
Mule Deer	9/19/2017	Washakie	Bluetongue virus
Raccoon	9/22/2017	Sheridan	Canine Distemper Virus
Pronghorn	9/26/2017	Weston	Bluetongue virus
Great-horned Owl	9/27/2017	Natrona	Avian Herpesvirus
Red Fox	9/28/2017	Natrona	Sarcoptic mange
Coyote	9/28/2017	Natrona	Canine Distemper Virus, Sarcoptic mange
Pronghorn	9/28/2017	Campbell	Epizootic Hemorrhagic Disease

Disease of the Month

Disease of the Month: **Nasal Bots**

Nasal bots are large, conspicuous fly larvae frequently found in the nasal passages and throat of white-tailed deer and mule deer, and less frequently in elk, moose and bighorn sheep. Hunters often discover these bots while field dressing an animal. Nasal bots cause discomfort to infected animals but do little harm to those which are healthy. Cervids become infected when the female bot fly deposits a packet of eggs on the skin around the mouth or nose of an animal. Larvae within the eggs are released when the water soluble packet is licked by the deer. The large larvae overwinter in the nasal passages and throat and are expelled into the soil in the spring. Adult flies emerge from the soil to mate and continue the life cycle.

Nasal bots in the throat pouches of a mule deer being sampled for CWD.