

Wyoming Brucellosis Coordination Team

November 20, 2015

Lander, WY

I. Welcome and Introductions.

Chairman Galey called the meeting to order. Members in attendance: Bill Williams (DVM, Former G&F Commissioner), Scott Talbott (WGFD Director), Senator Fred Emerich DVM (WY State Senate), Albert Sommers (WY State Representative, Rancher), Joel Bousman (Rancher, Sublette County Commissioner), Charles Price (WG&F Commission president), Jim Logan (WY State Veterinarian), Karl Musgrave (WY State Public Health Veterinarian), Will Laegreid (WSVL Director), Mary Wood (WGFD Veterinarian), Terry Pollard (WY Outfitters and Guides Assoc), Scott Werbelow (WGFD), Doug Miyamoto (WY Dept Agriculture Director), Mike McDole (USDA APHIS WY ADD), Bruce Hoar (COANR), Barton Stam (UW Extension), Rob Hendry (Rancher, Natrona County Commissioner), Jose Castro (US Forest Service). Jessica Crowder (Governor Matt Mead's Office) was on speaker-phone.

Guests: Debra Lawrence (ID Assistant State Vet), Ryan Clarke (USDA APHIS Regional Brucellosis Epidemiologist), Dan MacNulty (Utah State University), Noah Hull (UWYO), Hank Edwards (WGFD), Brandon Scurlock (WGFD), Brian Nesvik (WGFD), Peggy Yih (National Academy of Sciences, on phone)

II. WY State Vet Report

Dr. Jim Logan (JL) provided the WY State Veterinarian report to the group (see attached file for complete details). The Chapter 2 Brucellosis Rules will be reviewed by the Wyoming Livestock Board (WLSB) at their upcoming meeting, Nov 30, in Casper WY. The domestic bison herd that was under quarantine for Brucellosis identified in Nov 2010 has completed all the testing requirements and has been released from quarantine. A cattle herd in Park County has been placed under quarantine because of a single cow testing positive for Brucellosis, with one adjacent contact herd also under quarantine for herd testing. The other cows in the index herd have all tested negative on their first whole-herd test. Quarantine can be lifted if 3 whole-herd negative tests are completed, with tests being at least 60 days apart. The positive cow was necropsied at the Wyoming State Veterinary Laboratory (WSVL) where field strain *B. abortus* was recovered.

Albert Sommers (AS): Was the cow tested at the ranch or at a market?

JL: She was tested at the ranch, as she was a cull cow being tested at pregnancy check. There was a case recently where two cull cattle at market had suspicious reactions, these were subsequently found negative and released.

AS: Why do false positives arise?

JL: Tests at markets are screening tests, all market tests are sent to WSVL for confirmation. Some other organisms can cross react on the market test. Every year, about 60,000 market tests are performed, with about 20 false positive reactions per year. It's much easier to deal with if a reactor is found on the ranch rather than at a market.

Bill Williams (BW): Does the herd have a Brucellosis herd plan? Does the herd do adult vaccination? How old was the cow?

JL: The herd does have a herd plan, but to my knowledge does not perform adult vaccination. The cow was 5 years old. She had originated in MT, was sold as a vaccinated animal, came to WY as a yearling heifer.

JL: We are also dealing with a 'very likely' case in Sublette County. So far, 5 cows tested at market from a single herd have had positive blood tests, but have not yet been confirmed by necropsy.

Thach Winslow (TW): This is a herd of about 500 cows, 67 were tested as cull cows, with 5 being positive. There are 5 contact herds with common grazing occurring from June 11 to October 15. The 5 reactors are going to WSVL for necropsy. This herd had purchased 200 heifers from MT about 3 years ago, all were vaccinated and tested negative prior to shipping. Only cull cows have been sold from this ranch over the past number of years.

Joel Bousman (JB): Does this herd have a herd plan? Does it perform adult vaccination?

JL/TW: Yes, there is a herd plan, but no, they do not adult vaccinate. All positive animals were at least 3 years old.

AS: Is the affected herd near an elk feedground?

JL: Yes, it is close. An adjacent herd is also close to the feedground. We should have final information on this case in a couple of weeks, and we will forward this information to the BCT.

Charles Price (CP): Are there funds to indemnify for those animals?

JL: We are working with the Governor's office to make sure that those in Sublette County are paid. Dr. Shumaker and UW will help pay for the animals. I expect there will be more positive cows from these herds, and they will be paid if needed. USDA APHIS doesn't have money available to pay for the animals.

AS: If the herds have 3 negative whole herd tests, then everything is fine. What is there is a hiccup and they can't go out to summer grazing? Is there a fund to help those producers?

JL: The State doesn't have funding for that situation. Previously, the idea of setting up a fund to pay for hay/rented pasture, etc. has been discussed.

III. MT / ID Case Updates

Dr. Ryan Clarke (RC), USDA APHIS provided a report for Dr. Eric Liska, Assistant State Veterinarian for Montana on their Brucella situation in 2014-15 (see attached report). Two cattle herds tested positive in the fall of 2014. In Madison County, a herd of 2,300 head had one positive reactor. The other herd was located in Park / Carbon Counties. A single cow in a herd of 630 head tested positive as she was leaving the DSA in October 2014. Quarantine was released on these herds in March and April 2015. The Montana DSA is utilized by about 80,000 head of cattle, which represents about 4% of the MT cattle herd. MT is currently conducting an elk capture study and some of the results of elk seroprevalence were presented.

Rob Hendry (RH): The Mill Creek and Black's Ford elk have seroprevalence as high as that found on feedgrounds in WY.

RC: There is a large congregation of elk in those areas.

Dr. Debra Lawrence (DL, Assistant State Veterinarian for Idaho) provided a report on Brucellosis surveillance in Idaho. Idaho performs elk surveillance throughout regions around the DSA, and finds up to 20% seropositive in the Rainey Creek area. Cattle surveillance is also performed, with 17,000 to 22,000 head tested per year. Dr. Lawrence then provided an overview of the most recent Brucellosis cases in Idaho cattle and bison herds.

JB: Does it seem that Brucellosis is on the rise?

JL: We are finding cases, I believe this is a credit to our surveillance systems. We're looking hard, so it's not too surprising that cases are being discovered. Are elk now "hotter" than ever?

Scott Talbott (ST): It's hard to say for sure. It may be that Brucellosis is a cyclical disease, and we're just at a high point at the moment.

DL: We are looking harder. Four out of 5 recent herds were detected at market testing, which is not being performed to as great an extent as previously. There is a new cow slaughter plant coming to ID, which should increase cow testing.

IV. Big Horn and Sheridan County Brucellosis Surveillance testing

JL: Since seropositive elk were found in the Bighorn Mountains, WLSB has asked producers to voluntarily test their cattle. Since 2013, they have tested about 8,000 head between Sheridan and Big Horn Counties. To date, about 1,500 head have been tested this year. This is a small percentage of cattle from these counties. Producer meetings were held last month, which generated some interest and additional herd testing and herd plans. Other State Veterinarians have been asking why WY isn't increasing the size of the DSA. We are reluctant to make any

changes until there is good reason to change the borders, and 6 or 7 positive elk are not reason enough. If we increase testing in cattle, then we can assure trading partners about our negative status. In Sheridan and Big Horn Counties, cattle testing is paid for by WLSB. Testing is not required on movement in these counties.

RH: All three states are in similar situations. All have positive elk outside their DSA's.

V. The fate of North Yellowstone Elk in the Wolf Era

Dan MacNulty (DM), Utah State University Department of Wildland Resources presented on 20-years of data on wolf/elk interactions in the Northern Yellowstone Region. He feels that the key questions to consider are: How big is the effect of wolves on elk? How consistent across time and space are these effects, and How big relative to other factors is the effect of wolves? Some of the other factors to consider include humans, grizzly bears, black bears, mountain lions, and summer forage conditions (rate of "green-up" in the spring, which has a dramatic effect on elk pregnancy rates the next fall and has been negatively impacted recently due to drought conditions). The size of the Northern Yellowstone elk herd has fluctuated over the past 150 years, climbing from 1,500 elk in 1872 to about 18,000 in 1992, and currently at about 4,000. The "late hunt" instituted in 1976 was designed to take out healthy young adult females. This was stopped in 2010-11. On the other hand, wolves tend to target old elk (average age 13 – 16 years old).

RH: What about bison numbers? They have been increasing a lot?

DM: Yes, they are increasing but they are probably not outcompeting elk since elk and bison do not compete on summer range, which is the critical time for elk to fatten up. There is not much overlap of the two species at higher elevation. It could be that bison eat important elk winter forage, or it could be that what bison eat actually stimulates growth of elk food source. Again, it is important to realize that there are many contributors to changes in elk populations, including drought, human harvest, grizzly bear, black bear, mountain lions, and wolves.

VI. BSL/Research Updates

Dr. Will Laegreid (WL), Director of Wyoming State Veterinary Laboratory, provided an update on the current status of the Bio-Safety Level-3 Laboratory at WSVL. There has been some movement on the BSL3 lab! The administration of the project has been moved back to the university. Design documents are due the first part of next year. And optimistically, the construction could be done by the end of 2016.

FG: The University lost an immunologist over the lack of a BSL3 facility, hopefully once there is some movement we can look to re-hire.

WL: We will work with CDC at the same time, and hopefully get their approval.

AS: How much of the old construction had to be removed?

WL: Basically starting the project over again.

Dannelle Peck submitted a report to the committee (she was unable to attend in person due to weather and road conditions). Her report reads:

I've done some additional analyses over the last few months to determine how the cost of a cattle outbreak changes depending on factors such as the:

- Size of the index herd;
- Length and timing of the quarantine;
- Whether any quarantine-eligible pasture is available;
- The price of hay.

Though we haven't simulated every possible scenario, here are a range of numbers, to give you a sense of how much it varies:

1. Our baseline scenario is a herd with 400 bred cows, plus replacement heifers and yearlings. Assuming brucellosis is detected on Jan 1st (a bit late), quarantined for a full year, without any quarantine-eligible pasture, such that they must feed hay an extra 215 days, at \$89 per ton (pretty cheap), the cost to the producer is about \$135,000, or \$338 per bred cow. Most of this is due to hay costs.
2. This per-cow cost of \$338 is pretty constant across the three different herd sizes we analyzed: 200, 400, or 800 bred cows. So, as herd size increases, the total cost of the outbreak increases linearly. For a 200-head herd, total cost is about \$67,000. And for an 800-head herd, total cost is about \$270,000.
3. If hay prices are higher, then outbreak cost will be higher. In 2010, the 10-year average hay price was \$89 per ton. But in 2014, hay prices nearly doubled, to \$154 per ton. This would raise the cost of our baseline outbreak (400-head, feed an extra 215 days, etc...) from \$135,000 to \$253,000.
4. On the bright-side, we're getting better and better at managing the quarantine process. If we can shorten the quarantine from 12 months to 6 months (Jan 1st through Jul 1st), then we reduce the number of extra days of feeding from 215 to just 76 days. So the cost drops from \$135,000 to \$45,000. That is, by decreasing the quarantine period by half, we decrease the cost by almost two-thirds!
5. And we can do even better than that. If the index herd is detected one month earlier in the winter-feeding season, say Dec 1st, and they can test-out of quarantine in 6 months, then they only have to feed hay an extra 45 days, which lowers the outbreak cost from \$45,000 to \$35,000.
6. Lastly, if the producer's deeded pasture is quarantine-eligible – that is, it doesn't border any neighboring herds – then they'll only need to feed hay an extra 15 days, which lowers the cost from \$35,000 to \$12,000! Now this last number surprises me a little (bigger drop than expected), so I need to do some double-checking before you can quote me on it.

But I think these results are encouraging. They show that we can reduce the financial burden a producer incurs by testing animals as early in the winter feeding season as possible, and by trying to get them tested-out before the winter feeding season ends, presumably after calving when they pass their 3rd test. But to make a shorter quarantine period possible, we need to be confident we've found all the affected animals. This will be easier if we catch the disease early, before it has spread to multiple animals within the herd.

Noah Hull, UW graduate student updated us on his research project, using PCR to detect *Brucella abortus* in tissue. He has completed his search for appropriate primers, and the work on the positive animals will allow him to see how well the primers will perform.

VII. 2015-16 WGFD Surveillance plan and updates

Hank Edwards (HE), Wyoming Game and Fish Department, presented 2015 preliminary elk surveillance results (see attached powerpoint presentation). WGFD has focused efforts on areas around the DSA, and in the Bighorn Mountains. Over 10,000 sampling kits were mailed out, including 5,945 in the Bighorns, and another 400 sample kits handed out directly. Statewide, 881 samples received, 634 suitable for testing. From the Bighorns, 556 samples were received, 418 were usable, 392 were from adults and yearling, all samples from the Bighorns have tested negative for Brucellosis. Within the DSA (Hunt Areas 61 – 64), six positive samples have been identified. WGFD is planning an elk movement study for 2016-2022, with 150 elk captured and collared over 3 years. So far, funding is available for the first year.

VIII. Upcoming BMAP's for 7 elk herd units

Brandon Scurlock (BS), WGFD, discussed the plans for revising 7 elk herd unit Best Management Action Plans (see attached powerpoint presentation). Several stakeholder meetings will be held through December in a variety of locations, seeking input on the plans. This will be followed by public meetings to be held during March 2016.

AS: I keep hearing more and more about eliminating feedgrounds. Do you hear that? Also, I've heard about expansion of CWD.

ST: CWD discussion continues. I am not hearing too much about eliminating feedgrounds, but WGFD has been directed to reduce reliance on supplemental feeding.

IX. Clark's Fork BMAP

Scott Werbelow (SW), WGFD, reported on the BMAP that has been prepared for the Clark's Fork Elk Herd Unit. This was completed in the summer of 2015, following meetings in Cody. The most important part of a BMAP is the face-to-face discussions with producers and members of the public. The WGFD objective for this herd units is 3,300, and the three-year average count is 3,620. The BMAP can be accessed on the WGFD website at:

https://wgfd.wyo.gov/WGFD/media/content/PDF/Wildlife/ClarksFork_BMAP_draft.pdf

AS: We need to think about planning after a case in cattle. If a producer relies on BLM to graze, what restricts them from using that land after they have had a case of Brucellosis?

JL: In 2010, a herd was detected in October. Two herd tests were completed before turn-out, and through a joint decision with State Vet/APHIS/adjoining cattle herds, the herd was allowed to turn onto Federal Land. The third test was completed at pregnancy check in the fall. Forest Service and BLM say that as long as producer follows the rules set by the State Vet, they are okay with that type of approach.

X. National Elk Refuge Step Down Plan

Brian Nesvik, (BN), WGFD, discussed the plan by the National Elk Refuge (NER) to reduce the number of bison and elk fed over time. An EIS was completed in 2007, based on elk distribution from 2000-2006. A court instructed the NER to decrease dependence on supplemental feeding, with a goal of 5,000 elk and 500 bison on the refuge and the balance of the herd dispersed elsewhere. The plan is to start feeding later and stop feeding sooner. The problem is that last year there were 8,300 elk on the refuge, compared to 5,000 about 10 years ago. The distribution of where the elk spend winter has changed, with many more on the NER and far fewer on Gros Ventre feedgrounds. WGFD does not agree with the plan to start feeding later and end feeding sooner, as there are a lot of issues that make this untenable, in their opinion. Habitat improvement won't be enough to feed all the hungry elk. WGFD thinks that a goal of reducing feeding by a few days over several years might be possible, but not a sudden decrease of 3-weeks of feeding.

RH: Are local cattle producers involved in the planning?

BN: Not yet, but once the plan is released, WGFD will present it to them.

XI. Update on National Academy of Science: Revisiting Brucellosis in the Greater Yellowstone Area

Peggy Yih (PY) from the National Academy of Sciences (NAS) gave a presentation on the ongoing review of Brucellosis in the GYA. A group of scientists was appointed to the panel and they have had three public meetings so far. The first meeting was in Bozeman, MT in early July, followed by Jackson WY in September and Washington DC in November. The panel is currently in the process of writing up the results of their study, which will be subjected to an independent, blind review process before being released sometime in the summer of 2016. (All the public meeting material can be accessed at the following website: <http://dels.nas.edu/Study-In-Progress/Revisiting-Brucellosis-Greater-Yellowstone/DELS-BANR-14-03?bname=bannr>)

FG: Thank you for the update. Would this committee (BCT) be able to submit suggestions for reviewers?

PY: Yes, we will consider all suggestions. The public is also welcome to submit any additional information that they believe will be useful to the NAS review.

FG: We will put together a list of reviewers and submit them to Peggy.

XII. Legislative Update

Senator Fred Emerich and Representative Albert Sommers led a lively discussion related to the current fiscal situation in the State, including the “rainy day fund” and how there isn’t a policy on when or how to spend those funds.

FG: What does this all mean for Brucellosis? Livestock Board, University funding?

FE: I don’t see dramatic changes, don’t expect an increase, but with hiring freeze there will not be an increase in people, either. Many people are taking early retirement. There will be a lot of openings, but they won’t be filled.

AS: Dr. Galey, as you go before appropriations committee and need an advocate, please call me, and I will advocate for you.

JL: I think it is time to plant a seed – to revisit at some point looking at legislation to request a funding source to assist producers facing quarantine and a potential lack of pasture or feed. Help a producer to pay for leased private pasture, etc.

FE: This would not sit well with the constitution – you can’t use State money to assist an individual.

JL: In this case, the State would be helping the entire cattle industry, not just an individual.

FE: Let me think about that. I will take it past the Attorney General.

JL: Given that we likely have two new cases, I would like to re-iterate that our surveillance system is doing what it is supposed to be doing; that is catching these cases as early as possible. The investigation is still early on, we have a long way to go. We don’t know the source of the infections yet. Getting information out to all stakeholders is a challenge – we need to use all channels, such as WLSB, WGFD, and WY Stockgrowers.

FG: Any other business? If not, please travel safely!

Appendix 1
Guest Attendees

Name	Affiliation
Gary Hart	USDA, APHIS, VS
John Duncan	USDA, APHIS, VS
Thach Winslow	Wyoming Livestock Board
Jim Magagna	WY Stock Growers
Noah Hull	UW Veterinary Sciences
Ryan Clarke	USDA, APHIS, VS
Brandon Scurlock	Wyoming Game and Fish Department
Hank Edwards	Wyoming Game and Fish Department
Brian Nesvik	Wyoming Game and Fish Department
Reagen Bebout	US Senator Enzi
Chance Marshall	UW Extension
Pam Buline	US Senator Barrasso
Sierra Amundson	UW
April Peregoy	
Dan MacNulty	Utah State University
Deb Lawrence	ID Assistant State Veterinarian