

2020 CWD Multistate Consortium Meeting Minutes

7/20/2020 9:00AM – 2:00PM EST

Note taker: Heather Inzalaco

DAY ONE

1:00 - Welcome – Dr. Doug Buhler (MSU), Dr. Bill Barker (University of Wisconsin – Madison), and Shannon Hanna (Michigan DNR)

- Doug Buhler touches on the broad collaborative implications of this project were addressed.
 - This multistate project brings agriculture, natural resources, social science, etc.
 - This project will help us link our approaches across disciplines
- Bill Barker
 - Touches on MI meeting to plan this multistate meeting and how encouraging it is for all of these different areas of science coming together.
 - Bill gives brief power point.
 - This is our first annual meeting for the next 5 years
 - Chris Hamilton is the point for the North Central region for our group of organizations and can help with any admin issues pertaining to the project.
- Sonja will also be taking more about the structural and guidance pieces.
- Chris adds that we can reach out to her before anyone completes any of the annual reporting
- Bill adds that they should focus on the benefits of this group working together on large multi-PI grants etc.
- Shannon Hanna
 - Addresses how important it is to collaborate state to state and institute to institute.
 - Discussed the importance and difficulties with surveillance, and what we need to do to move forward. Some the standpoint of management there are some key things they need to know about. They were:
 - Decontamination; how do you kill a prion in the ground? Should it be drop down into the soil layers where deer can't get to it?
 - Infection rate; what is the level/dose that causes infection in deer? They need to know this to figure out where and how fast the disease will spread in any given area.
 - The third thing is the genetics of the deer. How to select for deer that are more resistant and make them more prevalent on the landscape?
 - This collaboration is obviously going to be crucial to determining these key pieces.
 - Budgets are struggling in every state right now but they are trying to set some money aside and there will also be federal funds available for CWD as well.

1:20 Introductions (all)

- Everyone briefly introduces themselves, prompted by Sonja.

1:40 Overview – Dr. Sonja Christensen

- Review the past year, discuss the outline and goals for our meeting. Updates and planting seeds: what does the governance and communication of the group look like?

- This group's work expands cross collaborative efforts.
- We have some governance and management of the group to address, such as voting and adopting a governance structure.
- Tomorrow we will break out into groups and discuss the 5 objectives and address some of the research planning.
- Sonja has been working on increasing communications to limit redundancies and increase information across all the collaborators.
- This project has just been approved and it comes down to the 5 objectives that we identified last fall, but we can use this discussion to possibly expand on these 5 items.
- Sonja goes over each objective title. This will be the bulk of our communications moving forward. (Stopped at 52:01 minutes)
- You can look up this 5 year project on the NIMS system as project NC1209
- We need to elect a chair, vice chair, and secretary by the end of the day tomorrow. These are annual positions that are voted on annually. Chris confirmed that it is up to the us, but normally it is a year. Joel Pedersen also confirmed they are intended to be 1 year terms.
- Our group needs to meet annually, and the report is due 60 days after the meeting.

2:00 - Progress Reports on Objectives 1 – 3 (Team Leads)

- Leads were designated at Sept meeting and they carry the ball on these separate objectives.
- Obj 1: Establish a national CWD tissue database and repository with improved access for transmission and pathogenesis research and validation of CWD prion detection assays
 - Dave starts out: Initially set out to establish the tissues and a database system for the tissues as well as centralizing the location for them.
 - The genetic component also would fit that part of Obj 1 and we should fit that into the discussion today as well as tissue for trying to determine the strain of CWD.
 - Ed Hoover is adding to conversation:
 - We have one project underway with Mark Ruder from GA with field samples testing diagnostics and mother -to-offspring CWD transmission. That is going great. We have also had conversations with Jason Bartz about registry dynamics and possibilities.
 - Mark from SQUDIS adds about complications and hurdles for collected samples: He said it all went pretty smoothly. What we were doing was addressing a specific research question, not necessarily a surveillance question, which if we had been doing it in the context of surveillance it would have been challenging.
 - We were working with the prion research center and West VA DNR, Arkansas Fish and Game commission and TN Wildlife Resources Agency. These pretty highly endemic areas and so we targeted the areas of highest prevalence and lethally collected samples from Mature and pregnant does in late Feb., March, April time frame without knowing if they would be pos or negative. They went through great care to ensure no cross contamination of samples that were collected.
 - They collected, saliva, blood, feces, and whole host of tissues from the doe and extracted the entire uterus and those dissections are ongoing at the prion research center. The samples will be tested via RT-QuIC.

research. So that was the genesis of this objective. I'll give a quick update on where we are in TX, the pass to Steve DaMarris in MS State and then I'll pass to Bob Ditmar.

- Steve adds on MS state opportunity: We are interested in the larger scale testing also and from our point of view is to get a better handle on transmission impact associated with supplemental feeding and deer density questions. In MS and in other states also there is a lot of resistance to giving up supplemental feeding and baiting in management zones and people are fighting it. There is a lot of political pressure surrounding this. There is currently no proof that supplemental feeding increases the rate of transfer of CWD and we know that of course it would, but it still remains to be shown and as long as that stands abolishing supplemental feeding and baiting will continue to meet resistance from a political and public perspective. The whole question of deer density and spread from a management standpoint, we are dealing with issues of if we need to decrease deer density and if so by how much. So, the two questions that can be addressed by the mid-scale "pasture" research design are the deer density/transmission frequency questions and the supplemental feeding and baiting/transmission frequency question. In MS one of our University stations is in the CWD positive zone and they have been discussing decommissioning it. So that facility is there but would require fencing. There is another facility that has been taken over by the FEDS that is fenced so that may be an option to pursue for a "pasture" study as well. This could be a situation where we wouldn't have to buy property and could build 100 acre enclosures where we could test different scenarios.
- Dave adds: A benefit of this type of facility is relative to the first objective of the project is that we would have deer with known history in terms of terms of tissue collection.
- Bob Adds: We are attempting to start a project as validation of the work that the USDA and TX A& M genetics facility. We still have some hoops to jump through but we are looking at applying to some of the COOP funding through the USDA. We are looking into using one of the positive facilities that is still in operation.
- Dan Storm adds about conducting research at a depopulated facility, prompted by Sonja:
 - This is a facility that was a 88 acre private facility that was depopulated in early 2000s and was purchased by the DNR with the idea of keeping the fence up to keep wild deer out. Now we have a composting project with Joel Pedersen at UW-Madison and another investigator at UW-Stevens Point who is also a soil scientist and specializes composting of carcasses. % bins were built and 2 pos deer were put in one and 2 neg in another, etc. These carcasses are composting and effluent is being collected and Pedersen lab will test these samples and subsoil samples.
 - This was a unique circumstance, the DNR purchased it not with research in mind.
- Obj. 3. Advance diagnostic testing for CWD with a focus on facilitating adoption of the RT-QuIC assay and improved sourcing for the recombinant prion protein substrate
 - Tracy Nichols, Christen Schueller, and Ed Hoover are heading this up.
 - Tracy adds: Last year at the meeting there was interest expressed in using RT-QuIC for use as an official diagnostic CWD test, that falls under the USDA. This was timely since we

had already begun discussion about its use in this capacity and whether or not it would work for our CWD program. Part of what was holding us up was the lack of a substrate source and Dan Walsh said he might be able to help with, and now USGS is going to provide us with a source of the substrate for the inquiry that we are doing in collaboration with the USDA agricultural research service. We began to collect all the necessary tissues and we are looking at rectal biopsy and are also looking at post mortem medial RPLN. At the same time I am collecting those, they will be characterized samples from depopulated WT deer herds. Dan Walsh has been working with Dave Schneider from the Pullman Lab (USDA ARS) and Aaron Lomax to generate a consistent protocol to do this. While there has been a lot of work done in the literature for RT-QulC there is a lot of variability with methods and for official purposes that is not something you can have. So those folks have come together to establish their chosen protocol to move forward. About the time where are getting ready to go COVID struck and Pullman lab is still not able to do work at their facility. But in the meantime the characterized samples are trickling in. This data will be evaluated by the National Veterinary Health Lab and the Cervid Health program for the utility and feasibility as an official CWD test. That being said, there may be different applications for what we use for farmed surveillance and what would be useful for wildlife surveillance.

- Shuping adds: At last years meeting one of our faculty attended and we are very interested in RT-QulC. We have the equipment here and have been collecting samples and have quite a bit of tissue samples for this project and we were going to get materials for the assay and to make the substrate, but then COVID happened. So my question for you is if the USDA validates for diagnostic use will they provide the substrate for all the diagnostic labs for the future. It would be nice to have one source to provide the protein and also to standardize the protocol to follow. That is something I am very interested in while working with this group.
- Tracy adds: That is a good question. Obviously, the quality of the assay depends on the quality of the substrate. So we discussed with USGS and they are willing to provide the substrate for validation but a commercial source as of yet is not available as far as I am aware. Dan would you like to speak to providing substrate nationwide for diagnostic?
- Dan adds: We are happy to provide substrate on the smaller scale that we are currently operating with Joel Pedersen's lab, but on a larger/national scale I think that would have to be evaluated with USGS leadership.
- Shuping adds: This area we need to really act on and move forward with it, and if we don't do that things will be difficult to control in the end so we need to lead this effort. The development of substrate is crucial and will help us take the lead on this. I am willing to share all my data with everyone in the group.
- Kristen Schuller adds: Some of things Tracy mentioned about moving forward with the validation has a lot of interest and bridges that gap very well in moving forward with that validation process. Higher levels of gov are aware this is an issue and needs to be solved. There are number of diagnostic labs in various states that are very interested in bringing the testing platform on so there could be a big area of collaboration in moving research forward. In the rest of this meeting and especially in breakout sessions these are topics we can go over.

- Ed Hoover adds: We have been thinking what it would take to be a national source of substrate and maybe Byron has something to add or has thought about that too, but it's not something the universities usually do. We have a certified production arm at the university, I don't know if something like that would be feasible. It would have to be certified though. As I recall from the Sept. meeting some of us volunteered to be an advisory on that, but it seems like it would be quite feasible and in theory this should be manageable.
- Tracy adds: When it gets to the point that there is someone who can do a large scale production of the substrate NVSL will be there to make sure the end result meets the requirements for use.
- Byron adds: My lab is not really in a position to be a large scale provider for substrate but are happy to help train people and provide guidance and advice.

2:45 – Break

3:00 – Progress reports on Objectives 4 and 5 (Team Leads)

- Objective 4. Develop a multistate adaptive management approach for CWD to evaluate surveillance and management strategies and how deer harvest regulatory options impact deer disease dynamics
 - Dan Walsh adds: Our goals here were to leverage historical information collected by agencies to evaluate CWD management activities and also to establish a framework to improve coordination in CWD management and facilitate cross-jurisdictional information exchange. These are the goals of the project that USGS has funded for the next couple of years and this project will be led by the COOP unit at UW-Madison and WI DNR and other state agencies. We recognize that harvest is the best place to start with this as is the most common CWD tool that is applied, but there are social and political challenges when we start to manipulate CWD regulations. One of the first steps that we discussed last Sept is are there ways to assess the effectiveness of harvest regulations and changes in realized harvests. This a big question, particularly in the Midwest where you have large populations of deer. So do harvest regulations actually change the number of deer that are harvested by hunters. So the way that we are approaching this by surveying management agencies across the region and gathering harvest regulation data on pre- and post-CWD invasions and the associated harvest information (license sales, report, etc.). we will also query agencies on what level of precision they need to know information on in order to make management decisions. That is critical on how we go about this analysis. Once we have this data we are going to model it and see if there is a signal on the efficacy of various harvest regulations and apply these in an agent-based epidemiological model to assess the impacts of harvest regulations on CWD dynamics. Then lastly, we will establish the framework for a multi-jurisdiction and multi-regional CWD control adaptive management strategy. So the key outcomes of this project would be to:
 - Improve our ability to manage CWD by assessing harvest as a management tool, fostering information exchange across jurisdictions, and the initiation of an adaptive CWD management strategy across the Midwest.

- Scott adds: I think Dan summed it up nicely. We really have high hopes for this type of work to make advances. But we are almost paralyzed with uncertainty as state agencies on what do we do now that CWD is here. So we have a lot of hope in this type of work to make a move forward.
 - Dan Storm: I have nothing to add.
 - Sonja adds: If anyone has any thoughts about how others can be brought in to join this team to contribute in one form or another. It would be good to hear about similar efforts that are going on out there that this group is not aware of or if anyone has any questions.
 - Un named female adds: Sonja I can chime in with what we are doing on a multistate surveillance optimization project, since there are a lot of folks on the call today that are involved in that. We can look at ways that we can share data so that states don't have to get a lot requests for data and we can have it in a standardized form to share across state lines for bigger projects.
 - Dan adds: anyone who is interested in the overall objective in general should reach out to us.
 - Evalyn adds: I am just wondering if the western group has done something similar and if there is anything that can be learned from there efforts that came out of their management recommendations.
 - Sonja adds: I can't speak to it directly, but I know there are folks on that can. Maybe this is a good example of eliminating redundancy through collaboration efforts.
 - Evalyn adds: We all got together and hashed some things out and came up with a document and there was suppose to be a social/human dimensions side that did not materialize, but several of the states were starting up adaptive management protocols, but what I don't know is whether there was interstate data sharing or any structure putting into place. That was I was excited about was improving the communications.
 - Sonja adds: I think it would be good for this group to think about how we might facilitate sharing out documents at large, whether through google docs, box, etc. So things like that doc might be helpful to pass around to this group.
- Objective 5. Evaluate heterogeneous social values, motivations, attitudes, and effective communication to inform disease management decision-making at local, state, and regional levels
 - Sonja adds: this is an area of a lot of need and interest and I think we can build this up here.
 - Tiffany adds: As a recap where we left off last year. We identified some major priorities. These is a real need to identify stakeholder values and motivations in association with CWD management and control and under that major goal were a number of identified priorities;
 - Summarizing existing human dimensions data across states and regions that have different CWD prevalence levels and management strategies and then from there developing a coordinated a human dimensions research agenda on CWD and from there working to develop consistent comprehensive science based messaging about CWD that can be shared.

- So we would be turning into a working group to facilitate that sharing of knowledge and communicate about the work that state agencies are taking on, but also being able to adapt those messages and evaluate the effectiveness of targeted communication strategies for different audiences.
- And then really just putting the research behind the outreach by developing measures that we can use to evaluate the effectiveness of targeted communication strategies related to CWD outreach.
- One of the big challenges that Sonja pointed out from last year was that there was not one social scientist in our group, but since then we have connected more widely with social scientist with an interest in the human dimensions of CWD, Bruce Lauber being one of them and I know he was putting together a multistate effort to look at the human dimensions behind CWD in locations or states that had different approaches to CWD management.
- Also, I have been working with a smaller team here to try to see how we can work across more diverse audiences; like tribal hunters, Amish hunters, and south east Asian hunters here in MN. And how we can take that on a more regional scale.
- Sonja adds: Thanks for the recap, and we are excited to have these other folks in the group now. Others that are not here today will be joining us tomorrow.
- Bruce Lauber adds: We are new to the group since we met last year, and we had put in a proposal in the fall cycle last year that would allow us to expand on some of the work we had been doing in NY. In recent years in NY we have been looking at hunters and their perceptions, attitudes, and beliefs towards CWD and how those related to whether they were following the EC recommended actions of disposing of deer carcasses, landfills and avoiding natural scent lure, which are approached intended to keep CDW from returning to NY. We unfortunately did not get the funding but are waiting on feedback so we could potentially try again in the near future. We have an ongoing thrust in NY state in which we will continue to delve into these kinds of behaviors and we would love the opportunity to look at that in a multistate context and would also love to pair that with Obj 4 as well.
- Debbie M. adds: We have an ongoing project for about 4 years now. Our groups have been interested in looking at management response with hunters and the general public. We have a lot of collaborations with Brenda Parlee with first Nations and all of that feeds in as part of the research program that we have. The info that we get from the social sciences feeds back in and directs some of our studies at the bench research side of things.
- Mark Zabel adds: We are collaborating with USGS in Fort Collins, CO and the local social scientists here to develop a workshop with the intent to start working on a socioeconomic systems model for CWD. They are planning a multiday workshop for the end of Sept. If anyone is interested in attending that I can get you on the mailing list. Really what they are trying to do is to develop a model that can be used as a tool for states that are dealing with CWD at different stages, some more mature outbreaks like in WY, Alberta, and CO and

also emerging outbreaks in some of the eastern states. So working with social scientists to develop tools to develop effective scientific and CWD social strategies to deal with this disease.

- Don from Arkansas adds: I would like to point out some of the human dimensions work that we are doing here in Arkansas. In 2017 We had initiated a long-term study of human dimensions of CWD, particularly of hunter perceptions. We determined hunter perceptions of CWD, one year after CWD was detected in Arkansas and every 3 to 5 years we are doing the second iteration of this study asking the very same questions we did back in 2017 so we can build a more longitudinal perspective of how hunters perceive CWD in Arkansas. Another important objective of this project is to determine how special proximity to CWD positive counties affected hunters perceptions of CWD as well. This first year data set indicated that the closer you are to CWD certainly affected hunter perceptions. So we will repeat that study using the same survey instrument this fall and try to repeat this every 3 to 5 years. Perhaps we should discuss taking this approach to perception nation-wide.
- Dr. Kong adds: Last year we had to show we can create...his audio was breaking up and I could not hear what he was trying to say.

4:00 – New Business and Building Our Consortium

- Sonja adds: There is a lot of effort that has happened but a lot that still needs to happen at well. Let's review our progress and our goals:
 - This comes from our approved, 5 year multistate project that you can view online. It goes through our issues and our 5 topics and objectives that we discussed.
 - In the Milestones section from 2020 our goal is to formalize administrative structure, initiate research and identify collaborators to contribute to each of the 5 objectives. Prepare and submit first group research proposal. These will be developed in all years and research will be based on funding success. Additional milestones in the first year include:
 - Development of a tissue distribution policy and shared information agreement between participating state organizations
 - Identify the sites of physical storage of CWD samples
 - Identify procedures for shipping and begin metadata recording of samples into a database
 - Identify key personnel in cooperating states and assess available large-scale facilities
 - Seek regulatory approval and local stakeholder acceptance of facilities
 - Develop protocols for dealing with suspect samples of specific types being analyzed by RT-QuIC.
 - If anyone has questions on those milestones we can start discussing these things as well as the questions listed below. So important things we could talk about are funding and additional collaborators. Right now this is meant to be a large group discussion. Maybe lets open it up to folks about resources and funding.
 - Moving forward, what do we need in place to accomplish our goals?

- What opportunities/challenges do we need to address?
 - Maybe lets open it up to folks about resources and funding.
 - Tracy adds: discusses the APHIS funding opportunity and who it applies to. There is 3.5 million in funds. Their priorities include:
 - Improve management of affected CWD endemic populations
 - Improve the management of infected areas or premises
 - Conduct additional research on amplification assays
 - Conduct additional research on predictive genetics
 - Develop additional educational outreach or programs
 - The amounts that you can submit for are \$50k to \$250K
 - This money is for 1 year and we may be able to do NCE on top of that to extend if needed.
 - Decision for who funding was available to was decided at the congressional level.
 - Webinars will be held to clarify the priorities. I will add it to the chatbox for everyone as well as a link to the RFP
 - Shuping adds: State agencies can get the APHIS funding then they can subcontract with the Universities? Tracy confirms that is correct.
 - Russ Mason adds: NCN funding opportunities are funds that favor proposals when they involved more than 2 regional associations or more than half of the states.
 - Also keep in mind that CWD testing across a lot of states will collapse this fall because of funding shortages. In MI there will be much less testing than usual for example.
 - Dan Walsh adds: Another source of funding is the DOI disease fund if others with in collaboration with USGS.
 - The cycle is driven by our headquarters. Congressional dollars are usually appropriated to our divisions and then we apply/ submit out proposals and the call usual goes out late fall/early winter.
 - Peter adds: there needs to be an effort to improve and expand genome assemblies for cervids.
 - Julie adds: What were are doing is using publish genomes and did resequencing and identified SNPS and the goal is develop SNP arrays for the states to use. Really about identifying population genetics rather than susceptibility so states can get a better handle of connectivity in their populations, relationships among infected deer who are in the sample pool. So what the agreement with the company that is making arrays for us is a 3 step process, so we are starting with a high density array that's

going to have 600,000 SNPS, that was almost ready to be shipped off but COVID shut it down. The next is a medium density array , 60,000, which may be more of the work horse for some of the state stuff. And finally we are going to do a GTC panel which has a much smaller number of SNPS for states to work with, particularly PRNP, that has some more repetitive questions that are going to come up. This is all lead by MI DNR and we have collab with UW-Milwaukee. We hope to have high and medium density developed by this time next year and MI DNR is developing a housing database that anyone collaboration with this is going to have access to this data.

- If we are successful, what would the desired outcomes look like to the varied stakeholders?
 - What would be our indicators of success?
 - What are we missing?
- Sonja adds: If people have ideas about others that should be brought into the fold to be included as collaborators let us know and we can open that up for discussion:
- Scott Wells adds: I work mostly with farmed cervid side of the industry and that is a key part of this and yet there are political pressure that try to create boundaries that really need to be broken down and I think this groups is one way to do that. But how? I think that we should continue to think about the 5 objectives in terms of farmed and wild cervid populations. One of the key components to dealing with wild and farmed cervid programs are state agencies. They have access to the information that is needed.
 - How can we engage the farmed cervid industry?
 - Adds: One we are engaging the farmed industry is from an environmental standpoint to better understand how prions may have been distributed on and off his property. I think the only way we can advance remediation strategies in a fenced in setting is to collaborate on research game farms.
 - Adds: I think it is good to engage the farmed industry and one of the challenges of states agencies with this is how responsibilities are split and the differences in that regard from state to state. That makes the approach somewhat challenging to engage that group as a whole when you are only working with 1 component of it.
 - Scott adds: When you look at the objectives and the plans, if you can just say you are addressing CWD in a holistic framework, you can ask which ones are interested in this as a research consortium.
 - Sonja adds: To include the farmed cervid approach is something that we need to agree on as a group.
 - Debbie adds: Cervid farms have just as an important roll in research. We get a lot of samples from these farms when they are depopulated or

when we need soil samples etc. and should be included in our 5 year project

- Joel adds: I agree with Debbie about the importance of captive cervid industry and should be included in our proposal and I don't think it will require any sort of an amendment.
- Tracy adds: CWD does not discriminate from wild or farmed cervids. We should view cervid farmers as partners and not an enemy or a means to an end.
- Sonja add: We tried to get someone from research side and management side at first go from all of the CWD positive states. As someone who has been trying to coordinate this I am interested in how best to gather a few folks from each state to bring them to include farmed cervids.
- Adds: there are some national organizations that are open to establishing these kinds of research collaborations. We have cervid farmers from MN that want to help in the effort. So tapping into some of these national level organizations a point person could help identify those research components would be great.
- Scott adds: Yeah I agree, and those people will identify themselves really quickly. In states that are being hit will be very interested in how they can contribute.
- Pat adds: When you are working with farmed cervid facility they handle their animals a lot and could this maybe be an opportunity to collaborate and collect samples at the time of handling? The second question I have is other than outward purchase of CWD positive private properties, is there an opportunity to lease that property for 5 years to do a research study?
- Adds: One way we have address this is from a community science objective and engaging them as that and letting them get involved in how they can give back and we have had some success in private land owners cooperating with us on this effort.
- Mark adds: Mostly let the scientific questions drive the partnerships.
- Tracy adds: We do share a lot of samples from herd depopulations and there is a process for that and there is often a lot of constraints. Its relative to animals that are depopulated with federal funds, then its state and we don't own those animals or samples.
- Sonja adds: I would like to end with discussion of this governance piece. We would like to think through how to get the new chair, vice chair, and secretary voted in. We can also make subcommittees. If you would like to self-nominate let us know.
- Joel adds: Goes over the responsibilities of the three governance roles.
- Bill needs to check with Chris on who can be a voting member.

5:00 – Adjourn Day 1

DAY TWO MEETING MINUTES 7/21/20

9:00 - Reconnect/Overview

- Discuss how breakout groups are the same as the 5 research themes with the goal being to focus on the research to get projects going and get proposals funded.
- First breakout session will focus on targeting proposal writing.
- The second...didn't catch it
- Overview of CWD research consortium networking, objectives, and communication.

9:15 - Designing Our Program: Research Planning (affinity groups)

Further development of research priorities and tasks for implementation. What are the existing research gaps or challenges? Identification of resources, proposals, and manuscripts.

Breakout group 1 meeting minutes:

- 15 people attending this group.
- Jason Bartz discussed some gaps in creating a sample repository that could be readily available. He suggests a virtual repository.
- What do people think of having MTAs? Bill Barker suggested having a UBMTA to simplify the MTA process.
- David Walter chimes in about agreeing with using already setup or blanket MTA's to be able to deposit into a repository.
- Debbie McKenzie discusses how Canada handles the logistics of having tissue repositories.
- Joel Pedersen resends the agenda to Ed Hoover.
- Ed thinks we should move on from the repository discussion. He adds that the use of tissues should be documented and it might be useful to identify why the research is being done for the MTA.
- Discussion continues on having a central repository in usable quantities or having a virtual record of what is available.
- It would be good to have a committee to evaluate sample requests- Says Joel Pedersen.
- Debbie describes how and who is looking to share samples with her lab and how they evaluate requests. They have LIMS to track it.
- Scott Wells says its important to think about how we would like sample data across different animal populations.
 - David Walter describes his experience with this.
- Joel inserts the other topic under group is how to acquire negative control samples.
 - Debbie discusses her experience with negatives turning out to be positives.

- Ed says you could define a negative in the context of what you are doing. Negative by known assays (maybe including bioassay) would be a criteria for defining the negative.
- Debbie adds that coming back to central repository would be to come up with ways of sharing the samples that may be similar or different with those that other groups have.
 - Scott wants to know what types of data are critical that would make the tissue data more valuable?
 - Debbie speaks to how the data are systematically separated base on RT-QuIC or PMCA results, etc.
- Jason Bartz adds that it would be ideal to come up with ideas to define what a strain is. To come up with a consensus on how that is defined.
 - Ed adds that maybe a flow chart of criteria could be developed. But it would be hard because everyone would have to meet that criteria.
- Summarize main points covered:
 - Go from a centralized to a decentralized organization to create virtual database of samples between research groups.
 - Investigate using LIMS (Laboratory information management system) to organize this database between groups.
 - Costs related to sharing and management of the samples and the database.
 - IT support is absolutely necessary to manage the database.
 - LIMS is a searchable database and you can select any criteria to do a search.
 - There can be an MTA to legalize the sharing of samples. There may be some issues with having access of farm facility samples and with APHIS.
 - Maybe Tracy N. can help us open a dialogue with APHIS.
 - Define what is a negative control as a criteria for how researches use those samples.

10:15 - Report Out / Discussion

- Discuss reports for each of the 5 groups giving each group 5-10 minutes to discuss our summary.
- Jason Bartz covers the summary from group 1
 - Go from a centralized to a decentralized organization to create virtual database of samples between research groups.
 - Investigate using LIMS (Laboratory information management system) to organize this database between groups.
 - Costs related to sharing and management of the samples and the database.
 - IT support is absolutely necessary to manage the database.

- LIMS is a searchable database and you can select any criteria to do a search.
 - There can be an MTA to legalize the sharing of samples. There may be some issues with having access of farm facility samples and with APHIS.
 - Maybe Tracy N. can help us open a dialogue with APHIS.
 - Define what is a negative control as a criteria for how researches use those samples.
- Group 2 from Dan Storm:
 - What are the things we would want to do on the captive cervid industry on the scale of deer density and baiting transmission within large paddocks and different treatments. Using a contaminate site for answering research questions.
 - How this plays into strain differences and environmental contamination levels.
 - A big step is to identify the challenges in this process. Acquiring properties is one or having access to private land to carry out the research. Additionally acquiring funding to address these questions.
 - Pat Klein wants to add that we cover how to have access to some of these gated facilities.
- Group 3 from Peter Larsen
 - How do we reduce entropy with RT-QuIC? This will take time to identify the best mechanism to do that. QC mechanisms are important and understanding the quantity/amounts that are required to do this.
 - We can use some of the numbers from other groups to identify the quantities of the substrate.
 - Discussed the formation of an RT-QuIC network to help facilitate communications and networking to share SOPS and best practices to begin working on the protocol that will be shared with the USDA.
 - Will also help identify the hurdles and prepare for validation and nationwide sharing of the protocol.
 - Maybe there could be a way to have video tutorials for RT-QuIC protocol training.
- Group 4 from Dan Walsh
 - Discussed different efforts that are going on that align with the efforts of this group.
 - Things like data acquisition
 - CWD alliance projects are also aligned with adaptive management
 - Diagnostic assays need to be taken into account in terms of adaptive management
 - How social science compliments the adaptive management approach.
 - Also looking at effects of co-infections and implications on CWD.
- Group 5 from Tiffany Wolf:

- Our work should be about how to influence behavior and values to mitigate CWD.
 - To reduce anthropogenic spread of CWD and the levels of CWD where it is occurring already.
- How do management information and educational materials differ across states?
- Surveys can be used to assess educational materials being developed and evaluate the effectiveness of those materials.

11:00 – Designing Our Program: Collaboration and Implementation planning (affinity groups)

Further development of implementation and collaboration processes with agencies/universities/jurisdictions. What do we need from others to be successful? How do we balance productivity with inclusion and communication? What do next steps look like?

- Split up tasks
 - Blanket/universal MTA
 - Template MTA to make everyone’s legal team happy across institutions. Bill Barker and Mark Zabel will be on this.
 - LIMS system
 - Have an experienced user walk through an entry to share with the group via ZOOM. Debbie would facilitate this happening.
 - We need a list of institutions who would participate in the UBMTA
 - NSF funding
 - Jason is going to look into this for funding the database building and maintenance.
 - USDA/APHIS Resource acquisition for costs of shipping and other expenses.
 - Acquiring/ streamlining sample acquisition from USDA/APHIS. David Walter is covering this.
 - Oversight and appeals committee for sample sharing.
 - Jason Bartz and Debbie McKenzie

12:00 - Report Out/Discussion

- Group 1:
 - Blanket/universal MTA
 - Template MTA to make everyone’s legal team happy across institutions. Bill Barker and Mark Zabel will be on this.
 - LIMS system

- Have an experienced user walk through an entry to share with the group via ZOOM. Debbie would facilitate this happening.
 - We need a list of institutions who would participate in the UBMTA
 - NSF funding
 - Jason is going to look into this for funding the database building and maintenance.
 - USDA/APHIS Resource acquisition for costs of shipping and other expenses.
 - Acquiring/ streamlining sample acquisition from USDA/APHIS. David Walter is covering this.
 - Oversight and appeals committee for sample sharing.
 - Jason Bartz and Debbie McKenzie
- Group 2:
 - More brain storming around challenge of facility and hurdles.
 - They need more discussion to prioritize and explore broader options to overcome the difficulties in acquiring disease properties.
- Group 3:
 - List and questionnaire for what stage groups are at with RT-QuIC development.
 - Establish a positive control that could be widely distributed to establish a standard.
 - Use of PMCA to use as a backup to RT-QuIC.
- Group 4:
 - Setup a framework to have another meeting on direction to discuss some action items to follow up on.
 - Missed other points I had to go to the bathroom...
- Group 5
 - How can we make an effort to take advantage of the APHIS RFA.
 - Longer range goal was to conduct social science that would complement the adaptive management group that they can incorporate into their models.
 - They also would like to meet monthly to document developments for outreach that would turn in to a manuscript.

12:30 – Lunch break

1:00 - Implementing Our Plans: Next Steps and Assignments (pre-discussion breakout first, then large group discussion)

- Took votes to elect new chair, vice chair, and secretary.

Who will take responsibility for each of the efforts? Who will convene the next sub-group meeting?

**Review of 2-tiered approach: CWD Research Consortium vs. Multistate Project
2:00 - Adjourn**