



WILD SHEEP INITIATIVE/WORKING GROUP 2021 SUMMER MEETING NOTES

Virtual Zoom Meeting associated with WAFWA Summer Meeting

Monday, July 19, 2021

8:00 am - 12:00 pm and 1:00 pm - 4:00 pm MDT



Meeting Chaired by: Mike Cox, WAFWA/Nevada Department of Wildlife

WSWG Members in attendance: Anne Hubbs, Amber Munig, Caeley Thacker, Andy Holland, Hollie Miyasaki, Todd Nordeen, Eric Rominger, Riley Peck, Doug McWhirter, Daryl Lutz, John Shivik, Clay Brewer, Kevin Hurley, Nathan Galloway, Melanie Woolever

Resurrecting Capture and Handling Guidelines (Cox and Chapter Leads)

- Review major messages and key content in each chapter and examples of the document's format/linkages/storage/access/updates
Mike - continue with bulleted format, add links to published papers, docs, video clips; also links within the Guidelines Adobe document to direct reader to related chapter content; continue to seek visual aids (videos and photos); processes, materials, supplies - in list/table format;

Main chapters:

- Animal and Herd Health - Anne Justice Allen
Chapter **text complete**; more photos and videos
- Base Camp Operations
NV & OR helped craft some of the first sections of chapter focused on base camp organization and linking to animal health and capture method sections for those details. Picture rich shall be necessary, photos and video clips.
- Collaring and Marking - Mike and Kezia
No draft yet
Kezia Manlove - putting collar tables together based on needs and length of the project. Still have performance issues. Vaginal implants, proximity sensors, Double collaring (long term monitoring). Include section for proper fit through all seasons. Did not send out collar performance survey yet. Data download process varies. More dialog with collar for improvements in all aspects.
Caeley - major problem with caribou calves with expandable collars that did not expand
- Translocations - by Committee
Mostly just have an outline. Habitat evaluation and release site considerations are very important. Can't afford putting good sheep in a bad location. Source stock considerations. social structure considerations on capture and number of collars. Transportation, Release and Monitoring
Doug will help write some of this section
- Helicopter Netgun Capture - Eric
Will send out near final draft Late 2020, has very good start. Looking at different capture times, late summer or fall before winter coats.
- Drop-net Capture - Vern
Draft complete; Add photos and videos to help explain
Mike - working with an assistant to store linked videos, references and literature on Cloud. Example is Bob Garrett's drop net video in Montana. Highlights a lot of the key components of drop-net capture.
- Neonate Capture - Marcus Blum
About complete, covers all major topics. Still need photos, video, VIT placement with adults, neonate sampling, etc... if available
- Chemical Immobilization - Todd
Basically wrapped up this chapter. Still looking for photos and videos
-

Timeline for Guidelines: **Would like document to be done by the end of the calendar year 2021.** Wants to finish project before stepping down. List of various committee members will be coming out soon. Froylan and Brent offered assistance to chapters that need help on.

Risk of Contact Modelling - (Woolever, Cox, Stephenson, and WSWG members)

- Melanie - **January 2021 Workshop summary.** Since then, identifying needs for the model like which home range estimator is most appropriate for the type and amount (frequency) of waypoints. **The RoC “Think Tank” has members from all land mgmt agencies (BLM, USFS, and BLM) along with states represented, Kezia Manlove, and contractor Josh O’Brien.**
- Mike - workshop was well attended. New model updated in R language
- Josh - **link to the new forward facing RoC website through USGS**
<https://code.usgs.gov/bhs-risk-tool-group/bighorn-sheep-risk-tool/-/wikis/Bighorn-Sheep-Risk-of-Contact-Tool>. (if the user has an issue with the model, a report or comment can be submitted and response and/or fix to the issue will be made). **Software should be downloadable from site soon.**
- Melanie - now easier to share site and information with various agencies
- Frank - For BLM link will be in Chat. Has a policy that they can use various models but currently they are using the RoC model and is offering training to BLM folks. Glad to work with other agencies to answer questions or provide analysis assistance.
- RoC Workshop Zoom Mtg Recording will be shared with all WSWG members
- Mike - overview of funding, training, support - overarching use and intent of running the model. Where are Jurisdictions at with opportunity to use the model for it’s intended purpose?
- Kevin - **Funding - \$43,000 total from various entities. \$38,000 spent so far.**
- Melanie - **Another \$10,000 before WSF involved.** Challenge getting funds to contractor. WSF helped with that. Funding almost gone. Collaring information still needed. How many, which subgroup, etc.... Foray questions remain as well. Training is a big need and funding for it. State agencies are a big part of this - core herd home range info, forays, etc...
- Mike - trying to get more funding from WAFWA through WSF for this effort.
- Frank - **Anthony will continue to help BLM employees.** His role is limited due to lack of time. Will seek and discuss other funding support. State office leads may be able to provide some other funding support through respective budgets.
- Mike - If we find more funding will Josh be able to continue to help?
- Josh - Yes, will continue to help and additional funding will help go further
- Mike - Regardless of agency or private, the model does provide a good assessment of the risk. It’s also a starting point to have further discussions with all involved
- Kevin - Canadian folks and tribes have interest in this as well.
- Mike - Agreed. BC has used it
- Anne - Alberta is going to use it. Will be using it with future captures and transplants
- Mike - Forest Service and others involved initially
- John - Grazing allotments - look at this tool for possible use as related to bighorn range. Grazing side drives the use of this
- Mike - same with BLM
- John - Used this years ago and will consider the new model in the future
- Mike - Nevada - Permittees looking to retire or convert. Running the model will help show/support the need to do that
- John - No mechanism to address 3rd party agreements. Range site likely needs driver. **RoC is not a hammer but a tool to use to involve all and create solutions**
- John - No timeline with new USFS Administration, directions and decisions.
- Kevin - Keeping track of the political direction but a lot unknowns at this point
- Kevin - How much decision power does a Forest supervisor have?
- John - Have to be consistent with policy and law. Supervisor has to look at all parties impacted
- Kevin - Decision tree

- John - Line officer decision
Mike - Incumbent upon us to bring parties together and work towards an agreement
Frank - It is Line Officer's decision but does get elevated up the chain sometimes.
- Jurisdictions previously, currently and/or proposing to conduct RoC analyses and context for running RoC?
- Mike - Where are other agencies at with RoC? Will they support this effort?
- Hollie - Been providing data to FS and BLM. Ran analysis for virtually all of Idaho. Know where conflicts are so may not rerun it. Don't have plans to run it further at this point. Have used it and understand it can be helpful.
- Mike - Everyone will be different. Nevada has not identified all the risks so plan to run the model in other areas. Need an opening and desire to run it
- Hollie - Provide information to whoever asks for it to run it.
- John - Thanks to Hollie for the data and help with the analysis. Will use whatever data can be shared to help with the RoC model.
- Andy - Running it when we have an EIS etc... to incorporate it into the NEPA process. Providing data to Federal agencies to run it. No particular allotment examples to add at this point. Was there going to be a training for CO staff?
- Mike - had the training during the winter meeting but not sure if there was a plan to have another meeting at various levels
- Melanie - Sure can have other training meetings. Depends on what the needs are. Could do one specific per state if desired. Will post links of the original training to watch.
- **Vimeo link to Risk of Contact Tool Workshop, January 2021**
 - <https://vimeo.com/512651889>
- Riley - New to this but have watched the RoC evolve the last couple years. Leadership changes have affected the use but think Utah is moving forward with it. As a whole, seems to be in a good spot in working through issues.
- Mike -relationships built on the ground will foster future use of RoC. Hoping to work with Josh for the different habitat types, etc... What about attraction? Like to see some component to address attraction to domestics. Working with Josh on some animated ram forays. Being able to show ram forays is very useful with model.
- Kevin - Funding proposals being considered. Formulating a list of possibilities with domestic sheep at the Dubois experiment station. Timeline is the end of the month.
- Clay - Gathering ideas from others
- Kevin - working with Experiment Station on the domestic side that may affect wild sheep
- Melanie - Anyone out there with questions, collar questions etc... please contact her with questions.
- Brent - Potential statewide research working with wool growers, etc.. that relates to domestics and wild sheep. May be looking at RoC and seem to have support for moving in this direction
- Melanie - Attraction component?
- Brent - Everything on the table at this point
- Mike - Comingling events have different dynamics
- Brent- One other thing to add, WSF and Woolgrowers came to MTFWP. Optimistic to get some good information from all of it.
- Support and collaboration for conducting RoC modelling among states and federal partners examples;
- California uses alternate models - Resource Selection Function and Cost Distance Analyses
- Ideas on assessing "attraction" of domestic and wild sheep and modelling stray domestic sheep, neither of which addressed in RoC?
- Overall goal of WSWG is bring awareness and reduce domestic and wild sheep conflicts. Where is WAFWA and agency leaders in willingness to support wild sheep more often?
- Mike - Large cattle operation in NE Nevada - developing proposals with TNC to use goats for weed control. BLM discussed with Nevada and used RoC model looking at foray and bighorn water

availability data. Model ran better without using water sources. Results helped identify 4-5 pastures that were going to be a problem with RoC. Western Watersheds sued BLM but RoC model brought everyone to the table and to a solution.

Test and Remove Management Tool (Lutz, Cox, Cassirer, Manlove)

Can view the workshop video <https://youtube.com/playlist?list=PLbJJuG006JHpPTctKTSE8vDHNmvXjKUCa>

Overview of June 2 Test and Remove Workshop

- Mike - Thanks to Daryl for idea and commitment to host Test and Remove Workshop
- Daryl - Interest was peaked on the Test and Remove topic at last fall's Northern Wild Sheep and Goat Council Meeting. Dealing with declining herds in WY and possibilities of recovering these herds. Good opportunity for information sharing. 180+ people attended through most of the day and 115 stayed all day.
- Morning session was dedicated to listening to different presentations on the science behind the Test & Remove, development of the method and examples where it was applied in states and provinces.
- Afternoon session - consider use with WY herds, provided a lot of input for consideration. Depopulation for some states has worked.

Kevin - Whiskey Basin herd has accessibility issues. Need repeated access to be more effective

Hollie - Appreciate being able to watch later. Really good

Becky - Thank you Daryl and all. Important for this group to keep consolidating actions for all to hear and view. Not yet an issue in Alaska but important to have for reference.

Froy - Now have disease issues, workshop drew attention to the various issues TX is now dealing with.

Daryl - Action items - ability to work in Wilderness areas.

Bill - Thanks for making the opportunity and video available.

Mike - Workshop is actually what DMV committee envisioned - bring about ideas from others and share it and spread its application

Daryl - Whiskey Mtn - post meeting discussions have stimulated what may be done in subpopulations. Workshop successful in bringing awareness and availability for use.

Review key sections of Test and Remove User Guide written by Frances and Kezia

- Francis - Information exchange at Workshop was good. User Guide was sent out. Changes made since workshop in regard to sinus tumors etc... Need feedback on document - perhaps on Google drive. See User Guide
- Mike - User guide reviewing and editing. Will put in WSWG Google folder for folks to provide comment, questions, etc.
- Mike - Think tank for T & R. Thoughts?
- Peri - Good Idea
- Mike - Who is interested. Francis, Peri, Hollie, Chad, Todd. Clay, Kevin. Email Mike or Frances if interested.
- Constructive criticism given and many conversations have happened since the workshop to help managers. Accessibility is a major hurdle to overcome with need to access the animals repeatedly. Important for this group to keep informing all of us of actions that are being taken by the jurisdictions to help improve the Test and Remove effort. Important to document details to help support individual states and help them formulate a plan.

Template for tracking and sharing results of Test and Remove Projects;

Workshops can bring crazy ideas to life, share the wealth of knowledge, and turning them into a workable solutions. When everyone shares their experiences we are all more likely to come up with a better solution.

Mike - **How about a template to follow?**

Frances - will work on this

Mike - perhaps a chronological order of each year, 1,2, or 3 strikes your out, Biomeme use or not. Lamb recruitment monitoring etc... Perhaps a spreadsheet or table

Daryl - Could be valuable but keep on agenda for next 3-4 years.

Bill - Seen some initial results in the BC. Helpful to see a bullet list, short summary lessons learned document.

Frances - Do a lot of people write report for the agency?

Becky - Who to contact would be helpful with summary

- Sinus Tumor questions.
- Won't go into sinus tumors too much - document presence or absence.

Brent - **would T&R be a stand alone document? Yes**

Break for Lunch

Pack Goat Guidelines - WSWG never produced any, only Shoshone National Forest Record of Decision (Cox and WSWG members)

Mike - See Slide. Shoshone NF August 2018 Record of Decision.

Doug - In WY, Wanted pack goat restrictions within core native herd habitats. BMPs allowed for use in certain other areas.

Revised Shoshone NF Land Mgmt Plan was approved in 2015 with guidelines restricting pack goats and domestic sheep/goat grazing. NA Packgoat Assoc & Idaho Woolgrowers file motion for contempt. In 2016 contempt motion granted disregarding the "Payette Principles" and requiring NF to reanalyze disease risk among sheep and goats and issue a supplemental ROD. New ROD was signed in 2018 restricting pack goat use in core native bighorn habitat and identifying a permitting process for their use outside this area.

Doug - Pack Goat Attorneys reached out to Doug

Kevin - reached out to NA Pack Goat Assoc. and arranged a meeting Aug 2018 to develop pack goat guidelines on USFS lands; was very positive meeting of NAPGA members and key wild sheep folks; BMPs were revised and health assessment/checklist was drafted and later refined by Tom Besser. and Peri. Wolff for use by Shoshone NF staff.

Mike - Has there been any other decisions like this on USFS land

Eric - FS (Carson NF) in NM just approved an Order in May 2021 restricting all domestic sheep and goats from all USFS wilderness areas in NM.

Mike - Was there pressure to open it?

Eric - Minimal pressure

Mike - in NV there are no sheep or pack goat restrictions on USFS nor on BLM lands

Kevin - Negotiated a deal to waive back use on in core native areas in Dubois area. Efforts were made to reduce in public areas.

Kevin - Now NAPGA has 5 BMPs for pack goat use. Have a training video on their website. There was an effort to develop a Veterinary inspection. Could not go on the Shoshone even with these practices.

Peri - tried to guide Vets on what to look for when examining goats. See Health passport

Doug - only 1 permit issued since ROD was in effect. One complaint about the process. No evidence of use without permits. Trying to streamline the process

Mike - Can WSWG put together guidelines or something useful to all public land mgmt agencies?

Kevin - Are feds getting any complaints

Frank - Have been hearing from pack goat owners for a number of years

Mike - are you aware of any restrictions for pack goat use?

Frank - a couple, with one in California. A statement or documents from WSF or WSWG may help

Frances - disease risk is minimal from pack goats

Becky - BLM and NF lands in Alaska has draft plans for regional areas with some restrictions. Chugach draft has restrictions

Mike - WSWG should make recommendations based on science so people can make informed decisions.

Daryl - hasn't heard much about it so may not be as much of a concern over all

Doug - The relationships with Pack Goat Assoc is OK

Peri - P. Goat user can find these guidelines to be costly and difficult. Good education is also needed.

Better management of goats means lower risk.

Doug - developed a hierarchy of risk with domestic animals. Attraction may play a larger role. Perhaps a prioritization of animal risk

Bill - videos in the past of sheep running down to see pack goats. Most videos have been removed from internet. Jurisdictions are different so prioritization may vary.

Bill - in BC have tackled it with restrictions in areas. Have explored many tools to utilize in the Province.

Mike - Should the WSWG ignore or tackle

Becky - Keep it going. Get baseline jurisdiction data. Develop guidelines, etc....

Anne - Agrees. Need to tackle the issue and continue to provide guidance

Daryl - Our responsibility to provide the proper context. We do need to be engaged.

Mike - We've kicked this can down the road for a long time. Wish we had more results. The WSWG can provide the basis for good decision making.

Bill - guidelines should be Suggestive and Prescriptive

Daryl - group can assure that things are done in the proper context. Opportunities to update data and make more current

Peri - Hunting with pack goats. Lots of use through hunters provides an opportunity to educate.

Mike - would like us to formulate what we know and what we don't know. Want to be able to hand it to other entities, FS, BLM, etc....

Frank - is the science definitive or do we need more research.

Mike - Doesn't appear to be any evidence that relates goats to any major disease outbreak.

Daryl - Maybe use the Shoshone NF guidelines to start with.

Frances - Agrees with Daryl. Real reason goats have less of an affect could be due to strain-type. Strain type is an area of more research that is needed.

Hollie - Agrees we should take it on. Be careful of the wording in guidelines and how it may be interpreted.

Melanie - time to deal with it is before you have it. Be proactive

John - Many in FS may be doing different per forest. May help to have a short objective document to help with consistency within the FS.

Mike - Pack Goat committee to develop guidelines - Peri, Patrice Klein, Riley, Hollie, Froy, Kevin, Anne, Bill, Becky

Pack Llama Guidelines - only draft Issue Statement (Cox and WSWG members)

Mike - was hoping WHC would partner with WSWG to take on Pack llama guidelines but it wasn't major issue for WHC given other current issues. Individuals with the Llama Assoc demanded WSWG set record straight 3 years ago. Mike setup a conference call. Was hoping they would be willing to meet in a small setting but it didn't get arranged due to Covid-19. Mike reached out to them a couple weeks ago. Llama group appears to be taking a hard stance. Do we want to take Pack goats and Llamas on together or separate?

Anne - Would like to revisit the issue with WHC. Keep them separate. Perhaps partner with universities or others to sample Llamas.

Kevin - Have hit a wall with adhoc pack llama group. Peri and Kevin have worked on some information requests from the llama group and trying to engage with a small-animal veterinarian.

Peri - Information sought includes: how are animals pastured; how often examined by health professional; do other animals they are pastured with frequently leave the property? When you go packing, what land/areas does one usually pack on?

Bill - think they are separate topics as messages will be different.

Daryl - Guidelines probably need to be separate. What about level of risk from other critters.

Eric - Other animals such as cattle may be carriers but not a real threat. Should focus more on their real species of concerns.

Daryl - Can still acknowledge those that are not a real risk.

Mike - displayed disease-risk diagram and spreadsheet from Mike Miller, depicting relative risk to wild sheep based on pathogen loads, animal husbandry, attraction, and potential for estray. Will add to the link with the other material.

Mike - Separate committee for Llamas and goats?

Bill - **Not a separate group but still be separate topic.**

Kevin - May be more of a thinhorn risk than bighorn.

Mike - trending that way

Anne - Don't need a separate group but may be more of a thinhorn issue.

Clay - Can add me

Frances - Will ask Lauren

Mike - **will be chair with Kevin's assistance. Will send an email doodle poll out for a meeting next month.**

May ask for help with a response to the Llama email

GIS Products and Spatial Databases (Cox, L. Smith)

- **ESRI GIS Story Map/Board on WSWG accomplishments and wild sheep conservation**

Mike - **visiting with Lucretia. Highlight various initiatives, Hell's Canyon, Stone Sheep in BC, and other projects for storyboard. Please provide to Lucretia if interested. Story Map will display and talk about many things - DMV, RoC, T&R etc.**

John - **timeline for Lucretia will be up to her to finish. She has been diverted to fire management.**

Mike - Story map primarily for education and entertainment. Not necessarily a webportal for updating spatial datasets like wild sheep occupied habitat and their attributes.

Melanie - Her understanding from Lucretia that maps could be updated through the Story Map by WSWG members and person could make their own image of the map but not sure if it would have all the raw attribute data?

Melanie - will save a lot of time having it real-time

Key purpose for having online spatial platform is to share the GIS shapefiles for analysis, not just for printing a map.

- **Latest version of GIS layers of all wild sheep occupied habitat**

- Key attributes have been added: herd name, herd size, origin, subspecies

- **Availability of new platform for updating and downloading GIS files**

- Arc GIS online makes it very easy to share the data across platforms and add people to the editing or map making features.

Mike - WAFWA Cloud and using WAFWA's ArcGIS Online license

John - FS would provide data

Frank - A couple years ago decided to use WAFWA CHAT platform and ask every jurisdiction to supply updated information each year. Getting WAFWA data was the challenge. Like the idea of individuals doing their own.

Chanda - **probably build into Story map ability to update spatial data and house the wild and domestic sheep spatial data on WAFWA Next Cloud. It is secure**

Melanie - Can password protect so certain people could access certain areas?

Mike - New wild sheep polygons could be added through ESRI's Survey 123?

Chanda - Yes

Chanda - screen share of Monarch project

Mike - have a couple folks sit in on a demonstration with Chanda.

Chanda - create a group and can add members which gives full editing privileges

Mike - should we move forward with this or wait

Bill - BC currently updating polygons, developed buffer polygons which are available to public. Could use those polygons for this program.

Chanda - Can use different layers of hexagons to protect specific location of data.

Mike - Had no initial thought of public consumption. See Attribute spreadsheet

Melanie - working on NPS data. States may have included that information

Frank - some tribal information may not be included

Doug - Has been an issue with Yellowstone NP. One thing we don't map is the Yellowstone River bighorn complex.

Bill - typically have most NP information included. Have some cross border information with Yukon.

Mike - some jurisdictions use different spatial scale/resolution on either side of the border; need to more collaboration on edge mapping

- **Updating Attribute Table for each Jurisdiction**
- **Development of estimated GIS historic wild sheep distribution to replace old and inaccurate map made by Seton and displayed in Buechner's 1960 Monograph;**

Mike - Visited with Lucretia on having 1860 distribution digitized.

Kevin - Can re-write history so still needed

Mike - would like to see if more accurate

Doug - Visited with Vern on this and have digitized some of the maps. Interested in defining that more. Digitized just WY historic bighorn distribution

Mike - **gravitating to this project more and more. Will get together with Lucretia and see about getting it all digitized from Seton's map and then ask each jurisdiction to "correct" distribution**

Updating and Displaying WSWG's Primary Datasets (Cox and Pettie)

- Translocations
- Jurisdictional Hunter Demand/Licenses/Harvest/Population Data
 - Wild sheep management metrics
 - **Mike - will provide a graph of population trends at Business meeting.**
- Bighorn Disease Events
 - **A neglected topic. A big push when Frances published the big paper in JWM "Pneumonia in Bighorn Sheep". Most are only updated through 2016. Will be put out as a google sheet so that everyone can update and add their disease events. How many animals have been affected, was there any recovery?**

Becky - is there updated Alaska information

Mike - Yes,

- Use of WAFWA's Next Cloud and ESRI Survey 123 Application to spatially represent all datasets
 - Survey 123 is able to modify polygons within the app. Able to change the data in the attribute table and change the shape of the data.

WSWG's First Guiding Document: *Domestic Sheep and Goat Management in Wild Sheep Habitat*; when and what sections do we update? (Brewer, Hurley, Cox)

- **Last document was updated about 9 years ago therefore it would probably be useful to update the document again in the near future. Wanted to add in pack goats and llama regulations. Land use and grazing guidelines would also be updated or included within this document.**
- Bill has information to update in the document.

Strategy for new WSWG Chair selection and support from Directors (Cox, Hurley, Brewer, and WSWG members)

Mike - new chair and how to pose to Directors. Spoken to several folks; haven't had much interest. Some agencies are pulling back on reducing time spent on WAFWA issues and not allowing involvement as a chairperson. Has been interest outside the working group. New model may have to be a retiree, or a non-member (WAFWA)

Bill - RMGA has gone to a co-chair model, consider for WSWG

Kevin - Many possibilities to be considered

Brent - Shared thoughts with MT thoughts about the group which is all in.

Mike - There are concerns about the funding within WAFWA but not major ones

Becky - Appreciate the collaboration, encourage to keep it going, keep within states if possible

Kevin - Can Mike share with the group the Director's response

Melanie - Can others roll this up the chain about the value of this organization

Kevin - WSF GIA application process is open through July

- Swelling movement on the hill to do oil/gas reclamation
- Migration corridor work, Moose and wild sheep can be considered
- Land & Water Conservation Fund - think about that route for possible funding. \$900 million available

Adjourn