

AGENDA

WAFWA Wild Sheep Working Group Meeting January 17-18, 2012 WSF Convention-Reno, NV Reno-Sparks Convention Center – Room A6

Tuesday, Jan 17 (1:00-5:00 PM)

Welcome, announcements, introductions, roster update and attendance sign-up sheet (Brewer)

Review of agenda/additions (Brewer)

WSF Update (Hurley)

Update - WAFWA Mid-Winter Meeting, San Diego (Brewer)

Pneumonia sample collection protocol (Goldstein)

USDA Vet Services: live animal importation protocol – NE and NV experience (Cox-Nordeen)

Jurisdictional Updates (All)

Tuesday, Jan 18 (8:00 AM-12:00)

Section 431-2012 Consolidated Appropriations Act: Interpretation and potential impacts to Wild Sheep (Brewer, Hurley and Woolever)

Update/Discussion – WSWG Projects (Brewer)

- Incident Reporting System: Domestic/wild sheep interactions
- Mapping Project Updates
 - USFS/BLM Mapping of Wild Sheep Distribution and vacant/active DS&G Grazing Allotments (Woolever/Rinkes)
 - Source maps (Brewer-Hurley)
- WSWG Web-Site
- Revision-Recommendations for DS/Goat management in Wild Sheep Habitat publication
- Conservation Challenges – Management Strategies publication
- Future Projects (All)

Upcoming Meetings (All)

Next WSWG meeting (All)

Other business (All)

Minutes - WAFWA Wild Sheep Working Group Meeting
January 17-18, 2012
WSF Convention-Reno, NV
Reno-Sparks Convention Center – Room A6

(Scribe – Elise Goldstein)

Welcome, announcements, introductions, roster update, sign-up sheet and agenda review (Clay Brewer)

WSF Update - Kevin Hurley

Welcome! Thanks to all of the agencies for sending representatives and other participants to attend the WAFWA Wild Sheep Working Group (WSWG) meeting. This year, the WSF convention has a lot of pre-registrants. 37 special permits will be sold. Kevin put together a summary of data from as many populations as he could of the # of rams in a population, the # of licenses sold in each population, and the # of rams harvested in each population and presented it to WSF board. He will be distributing a draft for the WSWG to review. This is meant as a work-in-progress document to be updated periodically. In summary, there are 150,000-180,000 bighorn in US and Canada (MX not included). ~14,000 licenses are sold each year, and ~2,800 rams are harvested. The population and harvest trends are not consistent from jurisdiction to jurisdiction. For example, MT population #s increased in the 1990s and 2000s, but have decreased ~20% in the last few years and as a result the # of licenses offered have declined. ID shows a similar trend, but other states show stable or increasing trends.

Karen Gordon

Professional Resource Advisory Board (PRAB) evaluated 5 funding proposals and is working on developing a more consistent method of reviewing funding proposals. The goal is to fund projects based on the WSF mission as stated in the bylaws as opposed to funding projects that “look good.” Chapters and affiliates have been asked to provide input in the form of mission statements and priorities to help WSF formulate funding guidelines. The Working Group is also encouraged to submit ideas. They would also like to promote furthering the collaborative nature of the relationships between the Chapters and Affiliates with their respective state/provincial agencies so they can work towards common goals. One priority is to jointly develop ways to better inform the public, other agencies, tribes, etc., about wild/domestic sheep disease issues.

CONGRATULATIONS:

John Kanta: AFWA Ernest Thompson Seton Award recipient

Melanie Woolever: WSF 2012 Wild Sheep Biologist Wall of Fame inductee

Ken Mayer, Eric Rominger and Elise Goldstein: WSF 2012 State Award recipients

Update-WAFWA Mid-Winter Meeting, San Diego - Clay Brewer - Clay provided updates on the following:

Budget: \$41,000 in donations raised thus far to spend on special projects. Clay is currently looking for travel funds to help get folks to meetings when their agencies will not support them financially. Although teleconferencing is an option in some arenas, it is not for the WSWG. July 20-25 2012 are the dates for the summer meeting in HI, with the WSWG meeting on the 22nd.

Previous action items from the summer WAFWA meeting:

- Conservation challenges and management strategies (briefing papers/problem statements)
- The WSWG is authorized to engage with the American Sheep Industry to address domestic sheep/ wild sheep issues. Letter sent to Idaho Congressman Simpson opposing Rider 442 of the FY 2012 House Interior Appropriations Bill (WAFWA letter sent out from President Conry on July 28, 2012)
- Revision: Recommendations for Management of Domestic Sheep and Goats in Wild Sheep Habitat in glossy format and at no charge for member agencies
- Impacts of 2012 Consolidated Appropriations Act was signed into law late Dec

Two WSWG teleconference meetings (Sep 7, 2011 and Nov 9, 2011 Teleconferences)

Ongoing projects (GIS mapping projects)

- o USFS/BLM mapping of DS allotments/trailing routes & BHS distribution
- o Mapping of all Wild Sheep translocations in U.S. and Canada
- o Reported that both projects are almost complete – Clay is not planning to report on these again unless it applies to the publication we've discussed

New Projects:

- Creating a web-based wild sheep and domestic sheep/goat incident reporting system where people can report sightings of domestics in bighorn habitat was discussed.
- Jurisdictional management plans
- Conservation challenges and management strategies (briefing papers/problem statements): will crank back up upon completion of the revised recommendations document
- Bighorn sheep helicopter captures and monitoring in wilderness areas.
 - o The need for improving relations between state and federal agencies was discussed. In particular, getting exemptions from the USFS to work in wilderness areas. The NEPA process for getting approval to land helicopters in the wilderness to help manage federally endangered Sierra Nevada bighorn was very intensive. A lot of inconsistencies exist with wilderness requirements and processes between different Forests. A programmatic EA has the potential to limit the work required to write these documents and get some consistency, but might bring on a lawsuit. Other issues that run into these Federal inconsistencies are dealing with drop nets, weed control, and archeological clearance. There is a 2006 AFWA MOU signed by BLM and USFS that provides guidance on these issues. The WAFWA Directors believe it is an important document and wants to discuss it further at AFWA in Sept. Clay will be collecting more info for that. Melanie suggested involving DC USFS office, and asked if AFWA is the best forum for the discussion since not many biologists will be there. We address this periodically we have not made any progress.
 - o Some of the problem is not opposition to the proposed project, but the Feds having to go through NEPA. We need to be persistent. We would like to see consistency, but inconsistency works well for the folks who are not required to go through so many steps so arguing for consistency may result in it being consistently more difficult for everyone. It is not as difficult to get things done in Canada. WSF chapters and affiliates can weigh-in in specific instances. CA thinks the decision in CA of Inyo-Kings Canyon could be precedent setting, where they were required to make population and management projections out for a 10 year period. In NM, they are required to do a Minimum Tool Analysis but not to write an EA. In the past, a 5-year approval was granted to use helicopters in conjunction with bighorn sheep traps, but

now that they are applying for a new 5-year approval there is new upper management in the USFS so they do not know if it will be a 5 year or 1 year approval.

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Pneumonia sample collection protocol - Elise Goldstein: Elise discussed an event that occurred in NM and the need for a standardized protocol was discussed. In MT, a protocol exists for dealing with bighorn dieoffs that goes beyond just sample collections. Peri Wolf had an idea to put up photos and videos of training on the website of the wildlife health committee, along with a contact list of people and phone numbers for additional information. Elise would like the WSWG to come up with a more detailed protocol of samples that could be collected, tests that could be run, and contacts for the lab. She, Peri and others will start working on this.

USDA Vet Services: live animal importation protocol – NE and NV experience: Clay presented Todd Nordeen's report concerning the protocol that NE used for transporting bighorns from Alberta and Mike Cox lead discussion on the topic

Jurisdictional Updates

AK – Looking for a new Director. Population analysis in AK is a problem because habitats are so large. The Park Service has started doing distance sampling to see how accurate it is but it is not useful on the small scale and is expensive to conduct. The BOG is currently addressing an abundance of state-wide proposals that would put nonresidents at a huge disadvantage. In the N. Wrangell Mountains the dall sheep population is declining but all other populations are stable to increasing. This winter has brought deep snows in the south and will likely cause population declines. There are 2 ongoing research projects: one in the Central Chugach's and one in the central Brooks range, both looking at survival and herd health health. There is a proposal to limit pack goat use in wild sheep and goat habitat. They are working with AK TWS to write a position statement supporting this.

Alberta – Clay presented report submitted by Jim Allen. In the process of revising their 2003 bighorn sheep management plan. They are still collecting DNA from bighorn plug shavings. Population surveys in 2010 show that the populations are stable overall but trends are different in different areas. Eight of 10 bighorn management areas are below the 5% goal. One is the Cadomin Mine because many of the rams are not available to hunt. They are currently looking at ways to limit hunter harvest. For many years, hunters have been required to have their rams measured and therefore they have over 8000 records. Over time, average horn basal circumference has decreased and average age has increased. The data set is biased because smaller rams are underrepresented.

AZ- The Kofa and Black mountains have been the main transplant sources for many years until they declined in the mid 2000s. Over the past few years the populations have stabilized. Some limited lion control has been conducted, however, they likely have not harvested enough lions to make a huge difference. Brian Jansen has been hired to trap lions there. A NMSU graduate student is finishing his thesis on bighorn and lions and they are awaiting the results. One bighorn trapping was accomplished in conjunction with the Navajo Nation. The state did the capture for the Navajo Nation on their property, and in return Navajo Nation gave the state 20-30 bighorn. These bighorn were transplanted to an area SE of Kingman. A transplant to the Catalina Mountains is on the horizon; there have been no bighorn there for a long time. There has been a lot of public pressure to put them there but AZDGF thinks conditions aren't any better there now than before. Ernest is conducting a genetics heterozygosity study of different herds, especially looking at Rocky/desert interbreeding. Domestic sheep driveway – the main person involved sold his domestic sheep to another producer who may truck his sheep instead. Western Watersheds litigated the decision but don't know the results. Largest wildlife impact in AZ history this year in the Wallow fire. Killed all but 1 ram in the herd, although it was not a big herd.

BC – Most populations are stable. They are working on updating their translocation files. They may have a few herds available for translocation. Working to develop a sheep registry to get some standardization for the

populations. There is a current research project studying stone sheep resource partitioning with elk in response to fire. There are problems with poor recruitment in CA bighorn. They were able to graze on summer alfalfa but recruitment did not increase. Three rams were harvested and they found *Mannheimia* spp and some other bugs but no lungworm. They have also found mange in a S. Okanagan bighorn and are looking for funding to study it. The area around the ram was inventoried and ear lesions can be seen in many bighorn in the area, and on the WA side of the boarder too. A 6-yr project on stone sheep with >150 collared animals and the 1st GPS collars will look at demographics, trends, and limiting factors for oil/gas ownerships. A collaring project in Elk Valley with 40 GPS collars is slated for May in response to a proposal to expand coal mines in the area. Looking at alternative ways to separate domestics from wilds such as fences, guard dogs, etc. A program for separation has stalled and they are evaluating the program to see how it can be moved forward.

CA – Regina Abella is focusing on desert bighorn, and there are a lot of vacancies in the Agency due to retirement. A helicopter accident a few years ago has basically shut down aerial work; it will likely be next fall before they can fly again therefore recent population estimates are lacking. They are discussing doing some ground surveys. John Wehausen has contracted to write the Desert Bighorn Plan. Peninsular bighorn are Federally endangered and are doing fairly well but some disease issues persist. They don't usually see huge dieoffs but they often lead to poor recruitment. Many population goals are being met except in northern areas which are closest to the urban interface and have disease issues. The issues are very political. Sierra Nevada bighorn have experienced several natural colonizations over the past few years. Radiocollared rams have shown interesting movements and colonizations that conventional wisdom does not support. They completed the EA for Inyo NF for Sequoia – Kings Canyon. It took a very long time so will likely preclude captures this spring. There is a very dry winter this year. Last year there were a lot of avalanches last year causing high mortality rate, but that is not anticipated this year due to lack of snow.

CO – Statewide population estimate - about 7,000. Stable population numbers over the last 10 years. **See CDW handout.**

ID – Republican Senator Mike Simpson placed Rider on Appropriations bill to preclude expenditure of federal funds on actions to reduce domestic sheep on Forest Service bighorn habitat. The bill that passed was for 1 year and not 5 - see tomorrow for more details. There is legislation to create more Governor tags for big game including bighorn, but there is strong opposition. There is a piece of property for sale in occupied bighorn habitat where the prospective buyer wants to put domestic goats. Domestic Sheep Experiment Station – bighorn sheep are in the area and there may have been dieoffs. An EA has been prepared for the facility. A lawsuit will result, regardless of the decision.

MT – In 2009-10, 4 of the 9 major bighorn dieoffs in the West were in MT. The Anaconda herd declined from 300 to 100, and a herd in SW MT declined from 120 to 50. There about 12 populations, including Yellowstone, that are interconnected and include sick animals in a few populations. One landowner with a few domestics has been difficult to work with, as have a few who own small flocks for weed control. Folks are resistant to anything that might infringe on their livelihood. A large transplant ready to go, with all major landowners agreeing to it. One person on the periphery is opposed and has been vocal about it.

NE – Clay presented report sent by Todd Nordeen. Nebraska completed its 30th year of bighorn sheep reintroductions. Three of the four reintroductions occurred since 2001 and 2012 opens with 5th reintroduction. Population estimate is 315. Poor lamb recruitment is the main reason the herds aren't doing well. Two rams were harvested with the auction permit holder harvesting a ram that green scored 182 4/8 (tremendous length-45 inches on the right horn and 42 6/8 on the left) and the Nebraska lottery permit holder taking a ram scoring 177 6/8. Plans are set to travel to the Cadomin Mine region of Alberta, Canada to capture approximately 40 bighorns. The capture date is set for February 7 with the subsequent return and release 2-3 days later. The biggest hurdles have been the border issues. The USDA was originally going to follow the Mexico/New Mexico transplant protocol including a Tuberculosis test that put the whole Alberta transplant in jeopardy due to the required lay over time. Thanks to previous USDA transplant protocols, from Canada to the US, that we

supplied they decided to waive the TB test. With New Mexico's and now Nebraska's transplant, perhaps this will hopefully be the beginning of a smoother process. Alberta and British Columbia (Helen) have graciously offered to continue working with WSWG on these efforts.

NV – NDOW would like to see more vigilance by Reno and Virginia Range woolgrowers, and more communication with feds and woolgrowers. The Game Dept. decided to hold certain woolgrowers harmless when the Dept. decided to place bighorn within a few miles of their land. Prior to the release, they spoke with 2 of the landowners and it went pretty well. Trying to get help from the feds to maintain separation but they are moving slowly and one agency blames the other for not making decisions, and nothing is moving. Capture/transplants – mostly augmentations but did place some bighorns in a location that provides for viewing opportunities so that folks can become educated about bighorns. Desert bighorn populations are large and there are not a lot of places to transplant them as they are limited by water. Ewe hunts are not well received by the public and they are trying gain support. UT is going to take some next year. There have been 2 dieoffs: a CA herd that lost ½ the population; and a recent desert dieoff whose extent is still unknown. Domestic sheep were present and they received permission to shoot them out of a helicopter. Samples were taken from both the domestics and wild sheep and comingling was confirmed in one of the dieoffs. In both events, domestics moved over 40 miles, and in one case a ewe/lamb pair went 50 miles. Disease – baseline screening from the transplants and they are trying to match that with dieoffs. Also have a DNA bank. A mange-infected bighorn was found in NV.

ND – Brutal snows of last 3 years have abated and there is a much-needed mild winter this year. ND is now the #3 producer of oil and is anticipated to be the #1 producer soon (AK and TX are ahead of them). MT is going to be close behind especially in the Billings area. Badlands population dieoff in late 90s still has no lamb recruitment.

NM – Sent MX 300 pronghorn, and as part of the trade MX sent 10 rams to NM. There was a large transplant/recollaring effort of desert bighorn with the 1st ever capture of wild ewes for transplant. Ewes augmented herds to test the hypothesis that there is a minimum number of ewes needed in a population in order to increase herd size in the presence of lion control. Herds are above 40 ewes now. After 31 years on the state endangered species list, desert bighorn sheep were delisted. The statewide population grew from <170 in 2001 to ~650 in 2011. Desert hunting permits increased from 1 to 19 this year. They conducted the 1st ewe hunt in a Rocky population this year with 12 permits. Low elevation herds in the Gila are on the edge of extinction from high lion predation in the past 3 years. There are 2 new Master's projects on desert bighorn, 1 on a lamb mort study using VITs and a second on foraging activity budgets in grazed vs. ungrazed by cattle areas. A set of twins was documented on a highly fed herd near the OK border.

OR – No relocations in the CA herds for the 1st time in 15 years. Evaluated the genetics of the relocation program and found that mixing within the subspecies or even taking herds that have a common origin and mixing them is beneficial. They are going to deploy radiocollars in the SE corner of the state because surveys are inconsistent. They would like to know where the animals go when they are not sighted. Wind development on the horizon, most is on private lands but businesses are going to be applying for permits on public lands. Transmission lines for the power typically go in a straight line that will bisect lots of habitat and populations. Little work has been done to look at impacts to ungulates. There are some wild ungulate studies in WY although they are not published yet.

SD – Custer State Park herd had a pneumonia dieoff in 2004-05. Currently, lamb production is good but recruitment is low, therefore the herd is still small. Radio-collars and VITs used in the Black Hills. 100% mortality in lambs from 2010 with pneumonia, and high mort in 2011 mostly from pneumonia. They are conducting an Elk Mountain herd study to get population dynamics info. Good fires in the area but the herd is not growing. Brought in NM sheep to Badlands National Park, but the sheep roam a lot and have had to euthanize some of them. Badlands herd is doing well and is gradually increasing. Pine Ridge Indian Reservation has taken over the southern portion and they have helped with putting out radiocollars and

collecting samples for disease testing. They are also doing mapping work to look at distribution and identify areas to start new herds. There aren't large flocks of domestics but there are a lot of small groups and 4H flocks, and they let them go when they don't want them anymore. There is a problem with authority because SDGFP can't go shoot them. There is a group of folks getting together and speaking up about bighorn sheep management as there is a lot of interest, and it will be great to have a voice for bighorn outside of the Agency.

TX – TPWD translocated 46 animals from Elephant Mountain to Big Bend Ranch State Park in 2010. Some are moving back and forth between Texas and Mexico and they are doing their best to monitor. Non-collared bighorn have been sighted with the transplanted bighorn, and about 90% of the animals transplanted last year are still alive. 95 animals were transplanted from the Van Horn area to Big Bend Ranch State Park in 2011. There was a low mortality rate, although most of the mortalities were from lion predation. The feds have an active trapping program but this area is not a priority for them, and since it is a State Park they cannot trap intensively. 8 goats were sighted on the MX side, and just after that a ewe crossed into that area. Those goats usually are in pens but can get out now and again. They are trying to get a protocol in place in case sick animals are seen. The next transplant will probably go to private lands and they are concerned that it will be perceived as favoritism in choosing 1 ranch over another. They would like to capture another 100 animals in that area next year as there is a surplus.

UT – In general, populations are stable. A ram found with domestics was euthanized. The domestic allotment is now closer to bighorn because the bighorn are moving closer to it and the BLM has combined 2 allotments which also moves the allotment closer to bighorn range. An EA was done for this but UDWR was left out and didn't know it was happening. They are working with UT WSF to help find an alternative area for that grazer. Biologists in the state got together to identify the location of all bighorn populations and domestic allotments. They identified problem areas and got WSF involved. They put out radio collars to document movements. Desert bighorn - still have areas they want to put sheep and will ask NV for animals. Research – wrapping up desert survival project and how human use impacts bighorn habitat use; comparing historic and current data. A new project on the San Rafael unit is investigating why the population is experiencing a steady decline.

WY – in general, populations are stable at 6,500. Total numbers are down from 20 years ago mostly from Whiskey Mountain and Jackson dieoffs. Legally harvested 181 rams; big wildfires prohibited access last year so 20 licenses were carried over. Big storms and deep snowpack this spring are leading to some concern with high elevation herds. They are trying to increase disease surveillance especially with hunter killed rams, and to increase sampling on healthy herds to get baseline data. The statewide domestic/bighorn interaction working groups still meets. Had a FS allotment situation on the Bighorn Nat'l Forest. Analyzed an area, WWS appealed the decision. Agencies moved the permitted from 1 forest to this one to avoid a wild sheep pop., and now this allottee is in the crosshairs again and this area has been defined as a non-emphasis area. They are doing mapping models in conjunction with the FS. Research – wilderness capture issues; they were granted 1-time permission for the captures and that will happen next week. This is an expanding population of non native mountain goats and they are concerned about their impacts on bighorn.

WA – WDFW still advertising a sheep and goat biologist position.

US Forest Service - DC directive to develop guidelines on interaction between domestics and wild sheep. This will be advertised in the Federal Register and go out for public comments, with an end date of Jan 2013. This seems over-optimistic. Interim directions: Tools used on the Payette to evaluate risk should be used in other areas. Use best data available to develop them, and a way to step-down the Payette analysis when that level of data is not available. Look at contact risk, foray distance (out to 26 km with concentric rings), if there is contact what is the risk of disease transmission (less info on that but going to do more work on it). Range maps are basically done. Looking for a place to post them, both the shape files for biologists and pdfs for publics. Want to update them once per year. FACA committee to have input on Planning Rule. Good to get a representative there from NGOs.

2012 Consolidated Appropriations Act/Section 431 - Melanie Woolever, Kevin Hurley, Curt Mack

Originated the first week in July 2011 (Rider 442) and the Act (along with Rider 431) was signed into law mid-December. Impacts include:

- Stops the federal agencies (USFS/BLM) from making decisions or taking actions benefitting wild sheep restoration and enhancement if such action reduces the number of domestic sheep allowed to graze on public land allotments.
- Delays implementation of the NEPA decisions on the Payette NF for 1 year. Congress did back off from the proposed five-year ban on wild sheep conservation efforts on federal lands.
- Gives state wildlife managers more say in bighorn conservation and recognizes that separation should continue “unless or until there is no conflict with bighorn sheep management.”
- If a permit is waived back by a permittee, this can be accepted and then closed until or there is no conflict with bighorn.
- Not clear whether or not analysis or risk assessment will be allowed to continue during this 1 year.
- Restrictions occur after July 1, 2011 - Rider in place until end of September 2012
- Biggest fear – That the rider will continue to be kicked down the road one year at a time

Implications – More information may be in the “budget advice” later this month. USFS likely will continue with risk assessment but how will this get displayed to the publics? They can do analyses but can’t use the results to change domestic numbers. The only exception is for federally listed populations. The rider supersedes any other act and fiscal appropriation, including possibly Pittman-Robertson funds.

Nez Perce tribe – bighorn are culturally significant. They used to be the predominant animal hunted by the Nez Perce for food, clothing, shelter, weapons, tools, etc. They would like to maintain that but they only have 1 small herd left on Salmon River and they have been working on recovering it for the last 10 years. They are trying to minimize impacts to permittees, and have engaged ASI and Woolgrowers to work collaboratively. They have supported buyout efforts. Woolgrowers have not been willing or able to continue with the collaborative efforts and have turned to litigation. Tribe does not support litigation to resolve these issues because it discourages cooperation, usually circumvents agency expertise, and resource legislation. The Tribe is looking for ways to urge BLM and FS to continue with current efforts. This is a bad precedent for wildlife management as it circumvents treaty rights and other legislation.

WGFD has negotiated to protect 90% of bighorn from DS grazing. Areas where bighorn sheep will not be protected have been identified as a compromise so that they could win the battle in most areas. Need to be careful about how much we give away. The model may not work in other areas, especially where tribal rights are concerned. WY was trying to avoid legislation on bighorn management so a compromise was pursued.

WSF is encouraging ASI to help fund Sri’s research.

Updates : *Clay Brewer* - Clay provided updates and discussion on the following:

Incident Reporting System: Domestic/wild sheep interactions

WSWG Web-Site

Conservation challenges-Management Strategies Publication

Revision - Recommendations for DS/Goat management in Wild Sheep Habitat publication

- Clay received comments from 5-6 group members, and has named them the current working group to get this document finalized. A few comments received initially went outside the original scope, and he feels that he needs continued input from group before he formally puts these into our working document. It is going to be submitted for the WAFWA Directors for approval and distribution by the summer meeting. We need to finish our part by end of the month. It was agreed to pursue publishing it in a peer reviewed journal.
- They are working on a reporting site so if folks observe interaction between wilds and domestics then they can report it online. This report would generate an email to the working group members so we are aware and can then take action. They are looking into a phone app to do it. There is concern that folks will report anything they see, like horns or a dead animal. They are also looking of a website to host it, and a means of advertising it.

Mapping Projects - *Melanie Woolever* – Send any updates to Melanie

Source habitat maps –sent out a CD to all states this past summer.

Habitat Modeling - In CO, they created 16 models to best predict bighorn distribution and habitat use and found that the one that worked best captured 91% of the data points. The model doubled the #of acres that is considered usable habitat. This was just for Rockies, not deserts. This model is going to be available for all states to use. It will be very easy to modify based on specifics of the user state. The CO draft report will be out in a few weeks. Once the source habitat is defined, the models could use the data to predict movement routes.

Richard Jones/Kevin Hurley - Transplant mapping – Currently, they are trying to match the source herd data with the recipient herd data to make sure they match. All states need to respond to this email from September so that we can finish this.

Future projects – Give some thought to these. Clay is going to try to do better with delegation, so beware!

Northern Wild Sheep and Goat Council – *Kevin Hurley*: If you aren't getting the NWSGC emails, let Kevin know so he can fix it. The next meeting is March 12-15 in Kamloops BC. It starts Mon evening (the afternoon session was cancelled), Tues and Thurs papers, Wed field trip, Shane Mahoney will do the wrap-up. Proceedings from Hood River are done and should be ready next week. They will be mailed out forthwith. Thanks to Vern for all his help.

ATTACHMENT 1

Colorado Bighorn Sheep Management: Status Report

Wild Sheep Working Group Meeting – Reno, NV
January 17-18, 2012

Rocky Mountain Bighorn

7,030 animals in 39 Data Analysis Units (i.e. Herds)
This is 3x the 1970 estimate, and similar to 1915 estimate of 7,230
Stable population trend during last 10 years

Desert Bighorn

450 animals in 2 herds with an increasing trend
First nonresident license offered in 2010

Management Direction

Statewide Plan approved by Commission in 2009
Herd Management Plans in progress

Limiting Factors

Past: 1990s “all-age” die-offs (Tarryall, Almont, Mt. Maestes, Glenwood, etc)
Current: Periodic bouts of low lamb recruitment (disease x density?)

Strategies for Managing Herd Health

Assess health and risks (long term)
Protect against pathogen introductions (from livestock and via translocations)
Manage populations and habitats (greater emphasis on ewe hunting to manage numbers)
Experiment with tools and tactics – focused on improving lamb recruitment

- Inorganic and organic selenium treatments
- Antibiotic treatments
- Vaccines – customize to specific herds
- Manipulating density – 3-5 year study – Is disease acting as a density dependent mechanism
- Development of a new genetic fingerprinting tool for bacteria to differentiate between pathogenic and benign strains.
- Radio telemetry technology to reduce bighorn and domestic interactions (SW Colorado in San Juan Mountains)

Recent Translocations

Sangre de Christos – wilderness area
Middle Dolores desert sheep – Commission pre-approval to lethally remove depredating lions (none to date 13 months post release)
Hayman Burn – habitat suitability model test

Habitat Modeling

Tools for estimating carry capacity, evaluating potential translocations and disease transmission risks