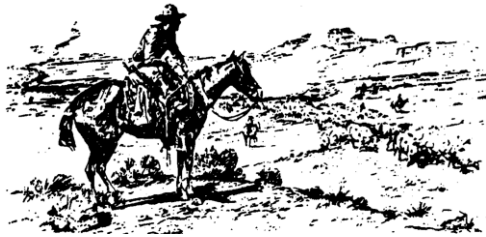


RANGELAND

NEWS



TO FOSTER ADVANCEMENT IN THE
SCIENCE AND ART OF RANGELAND
MANAGEMENT

NEVADA SECTION – SOCIETY FOR RANGE MANAGEMENT

November 2013

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(see map on last page for zones)

PRESIDENT'S PONDERERS

Ryan Leary

The last two years of drought have been tough on Nevada's rangelands, and the forecast so far is for more of the same. The drought, on top of the cheatgrass/fire cycle, underscores the odds against the long term sustainability of Nevada's arid lands.

This year the Nevada Section has done its part to educate land managers in what can be done to promote that long term sustainability. Thanks to Mark Freese, we had an excellent workshop on Pinon Juniper Fuels Reduction Projects at the Summer Meeting. We got to see what worked on the ground and why. Again thanks to Mark, the Winter Meeting workshop, Tools and Management Applications for Managing Greater Sage grouse promises to provide clear direction about what works on the ground. Maria Ryan has been the Section's boots on the ground, taking the Hope on the Range message to those outside the profession.

The Section has also continued its mission bringing the next generation into range with Kathryn Dyer and her Range Camp crew and the support we provide financially and through the Mock Interview program to the UNR Range Club. Everyone in the Section has a full load of other responsibilities so it

is a testament to the importance of sustainable rangelands that people make the time it takes to do education, outreach and investment in the next generation.

WELCOME, NEW MEMBERS!

Gracian Uhalde, rancher, Ely
Desiree Seal, Nevada Cattlemen's, Elko
Karen D. Jones, North Las Vegas

WINTER MEETING ANNOUNCEMENT

The SRM Nevada Section Winter Meeting will be held in **Reno, NV December 11 and 12** following the Great Basin Consortium meeting. We hope that you consider attending both the conference and workshop. More information about the Great Basin Consortium Conference can be found at: <http://environment.unr.edu/consortium/>.

A **workshop** titled, "Tools and Management Applications Workshop for Managing Greater Sage-Grouse" will feature recently developed application tools, preview the Nevada State Conservation Credit System, present mowing and fire management results from the Synergistic Monitoring Project, and highlight Sage-grouse Initiative projects throughout Oregon and Nevada. Below is a schedule of meeting activities. **** For more information and to register go to: <http://nevada.rangelands.org/>.****

December 11, 2013

- I. Tools and Management Applications Workshop for Managing Greater Sage-Grouse, 9 am – 4:00 pm at the University of Nevada Reno, Davidson Math and Science Building Room 103
- II. University of Nevada Reno Plant Identification Competition, 4:30 - 5:30 at the Santa Fe. (235 Lake St. Reno, NV 89501)
- III. Social at the Santa Fe (235 Lake St. Reno, NV 89501), 4:30 - 6:30.
- IV. Dinner and Banquet at the Santa Fe (235 Lake St. Reno, NV 89501), 6:30-8:30
 - a. 50 year member Awards

December 12, 2013

Business Meeting 8–12:00 at the University of Nevada Reno, Mathewson –IGT Knowledge Center Room 201

HOPE ON THE RANGE BOOTH TRAVELING

The Hope on the Range Booth reached 164 outdoor kids in Reno in August and the Nevada Cattlemen's Convention members in November. Thanks to all who hauled, staffed, taught and promoted our rangelands in these two events. Special thanks to the UNR Range Club for their efforts at Cattlemen's! Many thanks to Maria Ryan for organizing and keeping the ball rolling forward.

GREAT BASIN COLLEGE AGGIES

Tracey Shane

Great Basin College undergraduate students Melissa Mahlberg and Kaci Spahan, both pursuing Bachelor of Arts Integrative Studies degrees in Natural Resources, completed research during the summer on the long-term grazing exclosures known as the Nevada Plots. These grazing exclosures were set up between 1936 and 1939 by the University of Nevada, US Forest Service, and Bureau of Land Management and encompass big sagebrush, black sagebrush, and winterfat vegetation types. The students traveled across Nevada to 14 exclosures collecting vegetation cover and density data. Preliminary results show little difference between total perennial vegetation cover and density between the grazed and ungrazed areas. Further data analysis is still underway. This project was funded through grants from the Nevada System Experimental Program to Stimulate Competitive Research and the Nevada Agriculture Foundation. This was a cooperative project between Great Basin College and the University of Nevada, Reno with faculty mentors from each school.

HIGHLIGHTS OF THE SUMMER BUSINESS MEETING

- ~ Leonard Jolley from SRM's Board of Directors thanked NvSRM for a great tour and spoke about doings as the International level. He thought NV Section has the 2018 meeting. Pat Shaver is working on policy for the annual meeting; CalPac Section has an MOU with the parent society outlining responsibilities which should be a model for the future. Leonard said meeting with people is so important but videos will have a place. Rick said the annual meeting is the major source of funding for the Society and Charlie said they are important to involve youth.
- ~ Charlie Duncan is the new Membership Chair. Thanks to Charlie and Tracey Shane for her work.
- ~ Genie MontBlanc is the new NvSRM email list person; thanks to Genie and Erica for her work.

UPDATE: *Advisory Council Chair, Curt Talbot reports 11/19/13, "The Advisory Council will make their recommendation as to the 2018 venue during their meeting in Orlando. Thus far, the Nevada Section is the only one to make a bid, but other sections have until February to throw their hat in the ring. After the Advisory Council makes their recommendation, the BOD will act to accept or reject the offer."*

SUMMER MEETING A **HOT** SUCCESS !!!

Mark Freese

The summer meeting was held June 27 and 28 in Ely. The topic was "Pinion Juniper Fuels Reduction Projects and Vegetation Response – What have we learned?" The speakers were Cody Coombs, BLM Fuels Management Specialist, Robin Tausch, Rocky Mountain Research Station Scientist, and Julie Thompson, Eastern Nevada Landscape Coalition Ecologist. We toured several prescribed burns, mastication's, lop and scatter, thin and biomass removal, chaining, and other PJ removal treatment projects that occurred from 2005 to 2012. Based upon much experience in the Ely District, we had a productive discussion on the results of each treatment, what worked, what didn't work, and recommendations for future projects. Additionally, Robin Tausch gave an excellent presentation on some of the results and recent findings from the Joint Fire Science projects. Below is an outline of some of the valuable information that was presented at the summer meeting. For more information or to view the handouts go to <http://nevada.rangelands.org/>. Following the tour the Ely 4-H youth club catered a wonderful meal and Bromus Tech provided us with a delightful, Crested Wheat Grass/Cheatgrass Hefeweizen (German style wheat beer) beer referred to as Chefeweizen. Thank you Ely 4-H youth club and Bromus Tech!

I. Planning

- a. Before supporting a project determine the goals and objectives as they will inform the prescription, i.e. rangeland health, fuel loading, wildlife values, etc.
- b. Support large scale projects that attempt a variety of treatments (include both mechanical and prescribed burning) across the landscape through a substantial length of time so that the landscape is broken up into heterogeneous patches and are representative of several seral states.
- c. The pre-treatments vegetation conditions before the treatment will largely influence how the site will respond.
 - i. "Site specific differences in the composition of the pre-existing vegetation is the primary driver in the differences in recovery patterns occurring between sites" (Tausch 2013).
 - i. "The level of residual perennials present before a disturbance determines the level of functional resilience of the system after disturbance". (Tausch 2013)
 - ii. A couple rules of thumb:
 1. If >10% of the community composition is desirable brush, grass, forbs then treatment will respond well on its own (i.e. without seeding).
 2. If there is > 2 perennial bunchgrasses/m² then treatment will respond well on its own (i.e. without seeding).
- d. Cheatgrass
 - i. Exotic grasses and forbs generally increase in cover with increasing tree dominance and fire intensity.
 - ii. Sites that are warmer and wetter increase in cheatgrass to a greater degree.
- a. "Resource Growth Pool - Plants depend on soil water held at <-1.5 MPa matric potential in the upper 0.3 m of soil for major growth in the spring (resource growth pool).
 - a. Tree removal increases the time of available soil water in the spring.
 - b. There is a short period in the spring when warm temperatures and available moisture coincide to support rapid plant growth. Once the soil moisture pool for growth has been depleted (the resource growth pool) plant growth largely stops.
 - c. Perennial herbaceous species, particularly the grasses, which can deplete the water resource growth pool, are important for resisting dominance by annual grasses.
 - d. Invasive plants are highly dependent on this shallow water resource growth pool.
 - e. The extra water made available by treatment was largely used in Phase I sites by three years following treatment, but was still available on Phase II and Phase III sites four years after treatment. At four years following treatment the extra water lasted about twice as long on Phase III sites as on Phase II sites (2 1/2 weeks versus 1 ¼ weeks). The extra time of available water in the spring is a significant resource pulse. After four years following treatment the time of increased water availability in the spring has continued at the higher levels of pre-treatment tree dominance and is the longest on treated Phase III sites. This indicates recovery of these sites is still ongoing as the perennials still have not fully preempted all the available water. As long as this is the case there is still a potential for Cheatgrass." (Tausch 2013)
- b. Consider follow up treatments in phase II sites (e.g. prescribed burn) 4+ years following the project to allow time for desirable vegetation to allocate resources.

II. Methods

- a. Lop-and-scatter, lop-pile-burn, mastication, chaining, prescribed fire etc. are all acceptable methods
- b. Mechanical methods versus burns
 - i. Mechanical leaves more fuels on the site and increase the likelihood of a catastrophic fire.
 - ii. Mechanical leaves more shrubs onsite
 - iii. By year 3, perennial grass (PG) cover is generally higher in burned sites than on mechanical site.
 - iv. Prescribed burns remove the shrubs and likely result in increased cheatgrass cover compared to mechanical methods. However, as long as desirable vegetation, especially PG's, are on site, the function and ecological process and health will be maintained/improved. Mechanical methods change the structure of the fuel but do not reduce fuel loading. In sites that were mechanically treated and then wild fires occurred, generally resulted in high intensity fires that responded poorly. While in prescribed burned sites that experience wild fires, the burn severity and intensity is low and site responds favorably. Therefore it is important to include prescribed burns and mechanical methods across the landscape.
- c. Chaining
 - i. Chaining are very cost efficient as a 2-way will cost ~\$100/acre compared to a mastication which costs ~\$350/acre.
 - ii. Ensure you have good operators. E.g. keep chain tight so that it rolls over brush and doesn't pull brush out of ground.
 - iii. Ely chains (welded triangle) work better than smooth chain as they better remove trees.
 - iv. Chaining in cold weather can be effective as it snaps-off Juniper and less soil impacts occur when frozen.
 - v. 5 years post chaining equipment scars are gone (in general)
- d. Lop-pile-burn
 - i. Burn during winter so it is low intensity. Burn several small piles as opposed to one large pile. Re-seed under piled burns.
- e. Prescribed burn
 - i. Low intensity burns generally do well. Avoid high intensity burns as they kill desirable vegetation and often result in cheatgrass dominating the site.
- f. Mastication
 - i. Recommend < 4 inches of debris/slash left on site.

Additional thoughts of interest from Maggie Orr's notebook

Cody Coombs offered practical, specific insights; we stopped along US 50 from Gleason Creek up to the Crusoe Fire at Robinson Summit. At the third stop in the morning, when it was already sweltering; all the humans stood in the sun to listen while a dog along for the ride walked past everyone and sat in the shade of a small tree!

- Be cautious about doing prescribed burning on south-facing slopes or in a 10-inch or less precip zone to reduce chance of cheatgrass, particularly in Wyoming Big sage. Avoiding these areas is hard to do and make logistics work for controlling the fire in those areas. You could thin first or treat with another method but there are many variables.
- The best day to burn PJ is under Red Flag conditions in July; however, it is hard to get approved prescriptions! You need wind and 10-12% or less relative humidity (RH). Low wind and low RH yields a decent response; if winds are high you want the RH to be 13% at least.

The best results come from lots of walking with drip torches to burn in small patches so the heat is less; this is hard to get a fire crew to do as they like to see big fire. You want to burn at 130 or less percent live fuel moistures; this requires wind to carry the fire.

- Mowing at 6-8 inches invigorates sage brush for the next year; rabbitbrush will come back in both Wyoming and Black sage brush sites.
- If you don't cut a juniper stump all the way to the ground it will grow back. It is best to take all the trees out; leave trees in islands or stringers if desired for wildlife and visual issues.
- Pine nut numbers decline in Stage III PJ; fewer cones and fewer nuts in the cones; the trees need space to produce. Sam Lossing said they have dense nuts in the areas next to their treatments at Smith Creek Ranch.

Robin Tausch stated SageSTEP is the largest project Joint Fire Sciences has ever funded; check out the ongoing release of research at <http://www.sagestep.org/>; this year will also be a special edition of REM devoted to this. Work at this Marking Corral site has been particularly useful to Robin's work.

- Soil moisture exists in both a growth pool and maintenance pool; both are critical; the top growth pool is what is used in spring, plants use the maintenance pool to sustain and it is also what sagebrush and rabbitbrush use to bloom in the fall. Sagebrush uses hydraulic lift to bring water from below at night to use during the day. Perennials must deplete the growth pool to control cheatgrass; if they don't, in five years cheatgrass will move in and take it over.
- The definition of PJ Phases includes the level of dominance of trees, not just cover; the same tree cover will be a different phase on different sites, if a really dry site with no herbaceous cover it will be Phase III, if a really productive site, then late Phase I. Divide total perennial cover (trees/shrubs/perennial herbaceous) into tree cover = Phase I if 0-0.33, Phase II if 0.34-0.66, Phase III if 0.67/0.68 to 1.00.
- Cheatgrass is not the same plant that came from Asia: its production has tripled, the structure of the plant has changed which makes it burn hotter and be less palatable and it is now farming two species of mycorrhizal fungi which increases its survival after fire.
- An ARS trial found perennials had higher germination rates and grew faster in sagebrush smoke; the perennials had less germination and the plants were smaller and grew slower in cheatgrass smoke.
- The oldest junipers found were 1200-1300 years old; the oldest pinyon was 930 years old.
- There was a wet spring two years ago which generated a flush of cheatgrass all over; last fall was so warm so late; cheatgrass will carry over the winter. Identify temperature and moisture pulses and be ready to respond the following spring.
- Seven years later the contest between perennials and cheatgrass is still on; monitor, monitor, monitor or we will keep getting caught by surprise.

Concluding discussions at the Smith Valley sites asked why so much work has been able to be done in Ely. Individuals involved listed: a group of people that want to see it done, are aware there are obstacles but are willing to work with people and forge ahead with confidence they are doing the right thing; choosing what battles to fight and a willingness to fight them; willingness to learn from each other; a cooperative permittee; and that permittee stated BLM, ENLC and he formed a nucleus of effort; not just one neck was stuck out.

STILL NEW FEATURE! - HISTORIAN'S HIGHLIGHTS

Range camp memories 1964 from Dr. Joe Robertson, counselor:

"My memories of camp are hazy, but include: plant identification contests, visits to the 96 brand in Paradise Valley, evening slide shows, worrying about the African exchange students freezing at Big Creek, and the dedication of the camp directors and counselors."

Newsletter September 1958

Modoc forest sagebrush spraying: approximately 600 acres of sagebrush on the Surprise Valley District of the Modoc forest was recently sprayed. Two buffalo turbine sprayers pulled by Ford tractors were used to apply spray at a rate of 2# of 2-4D per acre. The area sprayed is a sagebrush invaded meadow type and it is still too early to determine the results of the spraying.

NEVADA YOUTH RANGE CAMP

The stainless steel water bottles with the Trailboss logo on them given to each camper were a rousing success; not only did they look good, not a single kid asked a cook if they knew where their water bottle was all week. A couple of adults did! The use of cups was reduced to Wednesday and Friday night meals. Thanks to our new Head Cook, Brittany Lossing. She did a great job and will be back.

We celebrated Sherm Swanson's 30 years continuous service to NYRC with a big cake. Maggie Orr plans a special newsletter to highlight camp and explain it to those who have not had the pleasure or opportunity to participate. It is a vibrant, valuable experience for both the youth who participate and the adults who assist. We don't want it to ever wither and fail so hope to inspire a renewed commitment from the Section and the supporting partners and the agencies that provide the staff.

Boss Tanks of Elko has stepped up their support of Range Camp. They donate use of a 1200 gallon portable water tank and this winter they are making sturdy stakes for our new dining area canopy. They are willing to entertain any support in the way of labor, fabrication, parts, and the use of the water trailer in the foreseeable future and only request we place their logo on the commissary trailer. One of the co-owners, Matt Anderson, is a past Range Camp camper. Thank you, Boss Tanks!

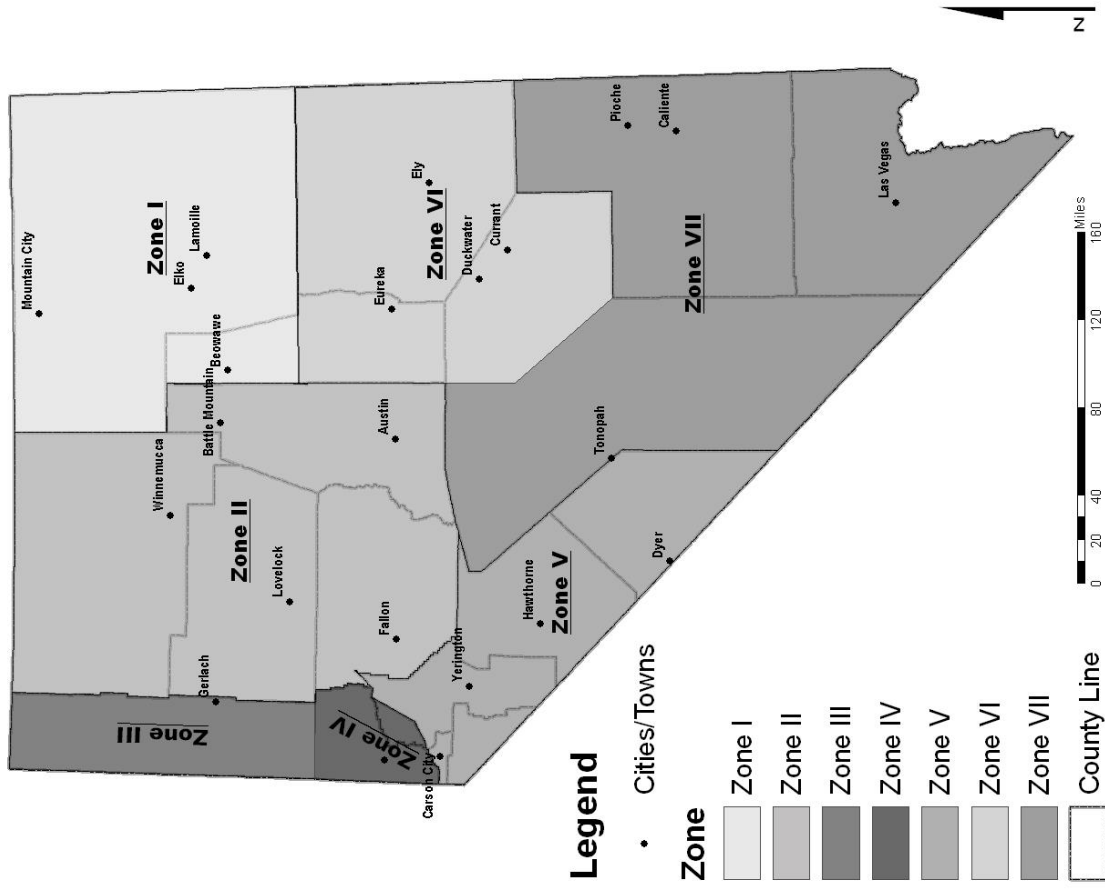
Range Camp staff are excited the Section agreed to form a set-up team that will come out before camp to set up the trailers and canopies. It is a way for people to help who cannot commit a whole week of time but it will be a huge help to staff. Thanks to Maria Ryan, Mark and Erica Freese and Genie MontBlanc for their willingness. Range Camp always starts on Father's Day so anyone can plan ahead to know the date help is needed. Take-down help the following Saturday morning would also be incredibly helpful.

QUESTION...*Is prescribed fire a man-made disturbance?*

This question will soon be on the table with the possible requirement of no net loss of habitat without equal mitigation for sage grouse project construction. The question was raised and answered at the Nevada Association of Conservation Districts meeting in Elko with the short, science response given of, "It depends." Agreed, but...the final answer will affect how agencies interpret the question and whether this tool will still be available or chosen for use. We are the practitioners of rangeland science and management; I think we must be the ones that define the terms and not let others control the argument. I asked the question and I'd like to collect thoughts to pass to the Sagebrush Ecosystem Council and Team. Thanks from Maggie Orr, sideoatsg@yahoo.com.

MAILING LIST: Please keep your email address current with Genie for correct delivery of NvSRM emails via the Section online mailing list; emb@cabnr.unr.edu to update.

Nevada SRM Section Zones



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