



THE COMMUNICATOR

A QUARTERLY PUBLICATION OF UTAH'S COMMUNITY-BASED CONSERVATION PROGRAM

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WITHOUT CHANGE THERE CAN BE NO PROGRESS: HOW BEST TO MOVE UTAH'S COMMUNITY-BASED CONSERVATION PROGRAM FORWARD?

Terry Messmer, Utah State University

In January 1997, Dean Mitchell, UDWR, and I were invited, by Verl Bagley, USU Wayne, and Piute County Extension Agent to meet with the Parker Grazing Association. Grazing association members were concerned about the status of sage-grouse on Parker Mountain and wanted to know more about what they could do. The Association provided a \$3,000 check to purchase the first radio collars deployed on sage-grouse on Parker Mountain. In the 26 years that followed this partnership scenario and community, the connection was replicated 10 times under the Utah Community-based Conservation Program (CBCP) motto "if it's not good for our communities, it's not good for wildlife." The CBCP solidified a role for local communities in developing policies to guide the management of western working landscapes. Concomitantly, the knowledge and values of the affected local communities, and the science and information provided through

stakeholder engagement, were increasingly valued by federal and state agencies, as well as non-governmental organizations.

Each local working group is unique in that they are locally led and adapted to local needs and situations. They unilaterally realized they needed better information to guide their conservation actions. The phrase "best available science" to them meant information used to regulate their livelihoods. Many perceived that others were using science to force a new vision on the west - a vision that did not include them. These perceptions were fueled by the failure of the scientific community to more fully engage stakeholders in the discovery process. In this newsletter Lorien Belton, long-time CBCP facilitator shares reflections of her 15 years involvement as a local working group facilitator. Lorien is leaving the program this June.

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Lorien Belton, Utah State University



Utah Conservation Plan For Greater Sage-Grouse

January 2019

Figure 1. The CBCP process provided the scientific foundation for Utah's 2019 Greater Sage-Grouse Conservation Strategy and BLM and USFS revised resource and land-use management plans. These Plans converged around the CBCP local working group science; the science which was made possible by the sweat equity and resources of local communities, and which reflected local knowledge and the commitment of the partners to the role of community and voluntary incentives in conservation. In May 2019, Utah Governor Gary H. Herbert signed an Executive Order to fully implement "their" Plan.

In the December 2022 newsletter (<https://extension.usu.edu/utahcbcp/files/Communicator-Dec2022.pdf>) Jason DeForest shared an update on Utah's greater sage-grouse conservation strategy (Figure 1). The previous strategy was based on the sweat equity of the local working groups.

As part of this transition we have meet with partners to ask them to identify to role of local working groups in conservation policy, but more importantly their moving forward.

Specifically, we asked them:

- what's the core, minimum level of continued coordination needed to meet State and other partner needs?
- what are possible entities for hosting something, with pros and cons? (level of neutrality, funding flexibility, etc.)
- what core functions would be associated with that? (i.e. admin: maintaining updated listservs, setting up zoom calls; and content: policy distillation, meeting topics like research needs, presentations, etc.)
- what are some funding models to keep something like this going at a baseline level? There are pros and

cons to the university-connected processes that we have now; seems that there are inevitably some other options.

As the move forward, we welcome your thoughts. Please feel free to call me at 435-797-3975 or e-mail at terry.messmer@usu.edu. Thank you for all you do to engage your communities in conservation.

In 2008, I hosted my first sage-grouse local working group field tour. We wandered through new sagebrush projects at Trout Creek, and marveled at the forb recovery. Over lunch at the Strawberry Visitor Center, we discussed lek counts, graduate students, habitat improvement, weed management, and involving the community in projects.

A decade and a half later, the groups still talk about all of that, across the state. But the conversations have evolved. We've built on what we knew then, and learned more. We still talk about all of it – research, grouse numbers, engagement, ecological complexity, and projects we can do together. Those things are foundational. It's a foundation on which we have built a tremendous base of understanding about the natural systems associated with greater sage-grouse. Along the way, it has also supported the building of new community ties, strong communication, cross-agency partnerships, and plenty of friendships.

As many of you already know, I plan to leave my facilitator position at USU at the end of June. As I prepare to wrap up my time at USU, I find myself reflecting on what this sage-grouse world has taught me to appreciate.

- One thing I love about the working groups is how fluidly new and old mesh – there's always space for new ideas, and always respect for what we learned before. We welcome new agency staff, new ideas and new information, all the while being grateful to those with the long-term memories of how the landscape has existed in the decades and generations before.
- My favorite lesson? Complexity is a gift. It's hard to take sides when everything across a landscape makes a situation a lot less black and white. I'm a fan of all that gray area. I think it's where compassion, understanding, and innovation live. I've seen it in action – it builds space for common ground. Sometimes, just the collective realization of how many factors are in play can be a bonding moment. It helps us see how we need everyone working together to create change.
- Although my groups don't meet very often in person any more, zoom has afforded us plenty of great opportunities – everything from hearing from far-away specialists to having our meeting zoom get to ride along in the cab of a rancher's tractor (thanks, Bill!). It has often meant that we don't have to chose between getting other work done, and being part of decision-making and learning.
- The working groups are a home for a multitude of conversations – focused on sage-grouse, but open to anything that matters. It's provided me with the chance to learn about seed coatings, erosion, military operating areas, conservation easements, enormous chipper-shredder machinery, ground water flow, soil crusts, raven behavior, railroads, Native American perspectives on ecological shifts, genetics, and even the emotional burdens on rural volunteer EMT teams. It's all connected, and I'm grateful for the insight into so many worlds I've been able to gain.

All of this matters far beyond just sage-grouse. That's one reason among many that I am grateful to have had the chance to be part of a process where so many people came together in the joint service of conservation work and community building. Growing and learning with so many of you over the past 15 years has been a pleasure, and an honor. I'll still be in Logan, and my number isn't changing. I'll be working with new communities in different ways, but I look forward to staying in touch and seeing how sage-grouse and the human systems around them continue to evolve and grow.



Ben Donnelly, Utah State University, Graduate Project Summary



Conifer encroachment has been a major concern impacting Greater sage-grouse (*Centrocercus urophasianus*; hereafter sage-grouse) throughout the state of Utah and the entire sage-grouse range. Conifer removal treatments have been implemented throughout Utah by the Utah Watershed Initiative and other government agencies. It is important to address the effectiveness of these conifer removals and determine changes needed to continue to support sage-grouse populations. Within my study I found information concerning sagebrush habitat restoration after conifer removal treatment in Sink Valley and sage-grouse use of conifer removal treatment areas within the Panguitch Sage-Grouse Management Area (SGMA) in Southern Utah. I gathered vegetation information pertaining to the restoration of the treatment area in the

Sink valley in 2021 and 2020 and compared them to vegetation surveys from 2007 and 2009 to determine change in vegetation including shrub cover, shrub height, grass cover and forb cover. I obtained sage-grouse locational data from 8 captured hens, that were released with Global Positioning System transmitters monitoring their locations from October of 2020 to December of 2021. I used this data to determine home ranges of sage-grouse within conifer removal treatments and selected locations to conduct further vegetation surveys to compare to the vegetation surveys conducted in Sink Valley.

I found that the treatments within Sink Valley had been restored based on sage-grouse management guidelines put forth by the state of Utah. Sage brush had been restored within the area after the conifer removal treatment. Forb and grass coverage was lower in 2020 and 2021 than in 2007 and 2009. There were significant differences when comparing grouse locations to those within the treatment area. Also, when comparing the treated areas to sage-grouse locations both grass cover and forb cover were higher at sage-grouse locations.



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This may suggest that to improve sage-grouse habitat grass and forb coverage should be increased. I analyzed the seasonal sage-grouse home ranges in reference to established seasonal maps to determine if the estimated home ranges fell within their associated seasonal habitat. The estimated home ranges fell outside of their associated season 40-60% of the time suggesting that further study determining the seasonal habitat within the SGMA should be conducted.

To determine if age of conifer removal treatment had an impact on sage-grouse use, I analyzed the sage-grouse seasonal home ranges with conifer removal projects conducted within the SGMA. I grouped the projects from 2006-2010, 2011-2015, and 2016-2021 and determined that projects completed from 2016-2021 made up the largest area within sage-grouse home ranges. Of treatments within home ranges 57.3%, 62.9%, and 76.1% were 5 years old or less during breeding, fall win-

ter, and summer seasons respectively. This supports sage-grouse are utilizing treatments five years old or less.

The consensus of this study supports the restoration of sage-grouse habitat through pinyon juniper removal treatments. My results support existing management guidelines for sage-grouse management with the exception of increasing the minimal for forb and grass cover to better support sage-grouse during the breeding and brood rearing periods (UDWR 2019). Additionally, continuing to support forbs and grasses post treatment to maintain higher coverage may greatly support sage-grouse survival. Additional studies determining the impact age of pinyon juniper removal treatment has on sage-grouse use will help managers develop new programs to better support sage-grouse within the Panguitch Sage-Grouse Management Area.



Zoe Moffett, Utah State University, MS Thesis Summary

Wildlife biologists, land managers, livestock producers, and farmers have all taken notice of the rise in common raven (*Corvus corax*; hereafter raven) populations throughout the intermountain west. By depredating calves and by roosting and defecating on equipment, they have become a nuisance to many people who live on working lands in the west. In the context of wildlife and natural resource management, ravens have become a problematic predator for several sensitive species in Utah, including the greater sage-grouse (*Centrocercus urophasianus*; hereafter sage-grouse). My thesis was designed to study the presence and behaviors of ravens within and near two Sage-grouse Management Areas (SGMAs) in southern Utah in order to better understand the threat that they pose as nest predators to the local sage-grouse populations. These sage-grouse are near the southern-most extent of their distribution, and their populations are smaller and more fragmented than they are in other portions of their range.



I utilized raven point-count survey data from 2021 and 2022 in order to examine what factors led to higher raven counts and higher rates of raven occurrence throughout the SGMAs. I found that the three most significant factors affecting raven presence throughout my study sites were calendar date, distance from the survey point to the nearest agricultural land, and livestock presence/absence during the survey. My analyses suggested that raven occurrence decreased between the end of winter (February-April) and the start of summer (May-June), increased with proximity to agriculture (e.g., irrigated cropland), and increased when livestock was present. I conducted an examination of the

risks that ravens pose as nest predators to the local sage-grouse by completing an artificial nest experiment during the sage-grouse breeding seasons in 2021 and 2022. This experiment comprised of placing chicken eggs underneath individual sagebrush with trail cameras in order to determine whether or not the nest was depredated by a raven. I placed these nests within sagebrush that was intact, sagebrush that had been thinned via harrow treatments, and in sagebrush that had grown after pinyon-juniper removal treatments (via lop and scatter or bullhog).

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I found that the nests placed within habitat that had been treated for pinyon-juniper removal were more likely to be depredated than nearby intact sagebrush. This may have been an indication that the sagebrush community had not had enough time to recover and propagate since the pinyon-juniper removal treatments (both bullhog and lop and scatter). I also found that ravens were more likely to depredate nests under shrubs that were in close proximity to a nest that the ravens had also found. More research is needed in order to understand the differences in how these various vegetation treatments alter the sagebrush and in how this may affect nesting sage-grouse. However, my findings may help managers understand that the recovery time for sagebrush within pinyon-juniper removal treatments may be longer than previously thought, particularly if the aim is to have sagebrush that can successfully deter sage-grouse nest predators.



My thesis examined the current threat of ravens as sage-grouse nest predators within southern Utah. My research supports a growing body of literature that has been detailing the anthropogenic subsidies that attract and bolster raven populations throughout the intermountain west. My research makes clear the difficulties of managing a sensitive, sagebrush obligate species like the sage-grouse within a fragmented habitat that is surrounded by the human activities and industries which support raven populations. In order to prevent nest depredation events, it is important to reduce food, water, and habitat subsidies near lekking, nesting, and brood-rearing sage-grouse. One important management strategy would be, wherever it is feasible to do so, minimizing instances of livestock ranging within certain sage-grouse habitats from March through July. Learning how to manage raven populations via removing subsidies would benefit not only sage-grouse, but other sensitive species in the southwest such as the desert tortoise (*Gopherus agassizii*) and the pinyon jay (*Gymnorhinus cyanocephalus*), both of which are prey of the raven.





The U.S. Geological Survey and Bureau of Land Management have released PopEquus. See the joint news release links provided below and the attachment.

<https://www.blm.gov/press-release/new-tool-models-future-wild-horses-public-lands>

PopEquus provides realistic predictions that will help inform the use of various population-control methods to protect animal and land health from overpopulation. PopEquus was piloted at the 2022 Free-roaming Equid Summit, held October 12-14, 2022, in St. George, Utah.

PopEquus is open-source and uses peer-reviewed information to model expected outcomes for a given population of wild horses and the cost associated with that outcome. The model can project, for example, what the population size of a given wild horse herd will be after 10 years using a fertility-control vaccine to prevent pregnancy in a proportion of mares, as well as the expected cost. BLM managers can use this information to compare different possible management strategies. Visit [BLM.gov/WHB/science](https://blm.gov/WHB/science) for more information about PopEquus and the BLM's efforts to use science and technology to improve the management of wild horses and burros on public lands.

To access the PopEquus user interface, go to the USGS website: <https://rconnect.usgs.gov/popequus/>

The Free Roaming Equids and Ecosystem Sustainability network will host a free public webinar on April 5, 2023, to demonstrate PopEquus and answer questions about the model. The webinar will feature scientists from the USGS and BLM who helped develop the tool. To learn more about the webinar or to register to attend, visit FREES Webinars |

<https://extension.usu.edu/freesnetwork/webinars/index>

The Free Roaming Equids and Ecosystem Sustainability Network (FREES) is a group of diverse organizations working for a common goal of “healthy herds of free-roaming equids (wild horse and burros) on healthy rangelands.” FREES seeks to enhance communication.

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**If it’s not good for communities,
it’s not good for wildlife.**

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Utah’s Community-Based Conservation Program Mission

Utah’s Community-Based Conservation Program is dedicated to promoting natural resource management education and facilitating cooperation between local communities and natural resource management organizations and agencies.

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