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LOCAL KNOWLEDGE - LOCAL SOLUTIONS: THE ROLE OF COMMUNITY-BASED CONSERVATION IN SAGE-GROUSE SCIENCE, MANAGEMENT, AND POLICY

By Terry Messmer, Utah State University

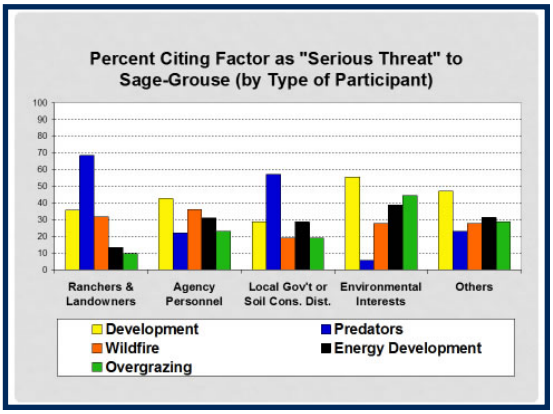
Some 20 years ago, I attended a meeting in Montana sponsored by the Rocky Mountain Elk Foundation under the initiative "Seeking Common Ground." The initiative revolved around the impact increasing elk populations where having on ranching. The meeting was well attended with over 200 people present including a lot of local ranchers. The meeting facilitator opened the meeting with a call for increased collaboration among all in attendance. Suddenly, the large meeting hall was filled with a loud pounding noise that resonated throughout the hall, interrupting the facilitator and drawing attention to the source of the outburst. I happened to be sitting next to the source. The source of the noise was a local rancher, a WWII veteran, who had pounded his fist into the table when he heard the word "*collaboration.*"

He broke the uncomfortable silence he had created with his pounding fist with this statement. "Do you know what we did with collaborators in WWII," he paused for effect then added, "We shot them"! Needless to say, his comments changed the entire dynamics of the room and meeting.

IN THIS ISSUE

Depending on what dictionary or source you use, you can find multiple definitions of the word "collaboration." One of them is "working with the enemy." Since WWII and more recently the word collaboration has been applied to processes initiated over the last 20 years to bring individuals and groups together to work on difficult natural resource or social issues to resolve deep conflicts. In almost all of these cases, the individuals and the groups they may represent have no history of working together because they have different interests, values, and perceptions and thus their perspectives differ greatly on what is the best approach to resolve the issue. They may have been, or are now, actual litigants seeking some remedy through the courts.

In 1996, Utah State University and the Utah Division of Wildlife Resources made a bold decision to "collaborate" with those most affected by conservation policy to develop a community-based conservation (CBCP) adaptive resources management local



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working group (LWG) process throughout Utah to begin addressing localized threats to sage-grouse (*Centrocercus* spp.) and sagebrush obligate species that inhabit Utah. Over time, this process has enhanced communications and collaboration among private stakeholders, local, regional and state governments, and state and federal management agencies and mitigated regional and statewide conservation threats to sage-grouse and other sagebrush obligate species. The first LWGs met 8 years before environmental organizations petitioned the U.S. Fish and Wildlife Service (USFWS) to list the sage-grouse as endangered under the federal Endangered Species Act (ESA).

In March 2010, the USFWS designated greater sage-grouse (*C. urophasianus*) as a candidate species for ESA protection. Their decision was based on continued habitat fragmentation and inadequate regulatory mechanisms at the local, state, and federal levels to curtail the impacts. Because sage-grouse are landscape species that inhabit lands owned and managed by multiple jurisdictions, the preservation of large tracts of suitable habitat and the management of these areas to maintain connectivity between populations will be paramount to their conservation. Listing of the sage-grouse for protection under the ESA would limit state management authority and impact local, state and regional economies.

Within Utah, Governor Gary H. Herbert chartered a Task Force to develop recommendations for a statewide plan for the conservation of sage-grouse and provide for the continued economic health of the state. In 2013, the Conservation of Greater Sage-grouse in Utah (Plan) was published. The Plan would not have been possible without the two decades of research and community involvement accomplished by CBCP. In February 2015, Governor Herbert signed an Executive Order (EO) to fully implement the Plan. The EO recognized and credited the CBCP and the LWGs for conducting the baseline research and community involvement essential to building the Plan. Because the LWGs' efforts, the state of Utah possessed unparalleled knowledge about the factors essential to the species conservation. The LWG Plans were aggregated into a statewide plan for sage-grouse. The collective result provided an organized approach for addressing the factors used by the USFWS to measure the success of conservation actions.

Utah's LWGs clearly demonstrated the importance of the knowledge and values of local communities, those communities often most affected by conservation policies, in developing sound conservation policies. This local knowledge is increasingly being sought and acknowledged by federal and state agencies and non-governmental organizations because of their valuable contributions to natural resources conservation and management. The success of these relationships has been linked to reciprocity and transparency in information exchange, common goals, enhanced understanding of rules of law and social processes, and shared scientific discovery, which collectively created a foundation for mutual trust. These social engagement processes, often referred to as local working groups, are enhancing the connectedness of communities to government and shaping individual and group action leading to increased ownership and positive outcomes. Through these processes, innovation, new ideas, and risk taking are encouraged. However, even given innovative successes, there remain practical and policy challenges and unresolved questions regarding how governments view and respond to communities empowered to make their own decisions.

To shed some light on these unresolved questions, Utah State University Extension, Utah Public Lands Policy Coordination Office, Utah Department of Natural Resources, and Utah Division of Wildlife Resources are hosting a symposium from 8-12 AM Wednesday, February 1, 2017, at the 70th Annual Meeting of the Society for Range Management. The symposium will be held in St. George, Utah (Ballroom F of the Dixie Conference Center, 1835 S Convention Center Dr.; there is a registration fee). The symposium will feature case studies that explore the range of community involvement in natural resources conservation decision-making.

For more information about the program go visit the CBCP website at www.utahcbcp.org.

Photo courtesy of Todd Black.

USU Research Provides the Best Available Science to Guide Utah's Conservation Strategy

By David Dahlgren, Utah State University

The U.S. Fish and Wildlife Service is required to use the best available science when making a decision to list a species for protection under the Endangered Species Act. Research conducted by scientists and graduate students at Utah State University (USU) and Brigham Young University (BYU) provided the scientific basis for Utah's Conservation Plan for the Greater Sage-grouse. However, the science is never really complete. We learn more every year about how best to mitigate the conservation threats to the species. This year has been no different and we have some exciting findings to report that will have important implications for future conservation within the Beehive State. This research would not be possible without the support of our partners. Several of these were published in a recent issue of Human-Wildlife-Interactions which is published by the USU Berryman Institute. www.berrymaninstitute.org/htm/human-wildlife-interactions-journal

Sage-grouse Diets

Brian Wing, a USU graduate student advised by Terry Messmer, recently reported that certain females, which consumed a unique terpene (i.e., the chemical compound in sagebrush that gives off that sage odor) in black sagebrush during the winter, had higher nest success the following breeding season. This study supports the Utah Plan strategy of identifying and protecting all sage-grouse seasonal habitats. To read more go to www.berrymaninstitute.org/files/uploads/pdf/journal/fall2016/WingAndMessmer.pdf

USU Extension also published a fact sheet on sage-grouse diets. The fact sheet reports the seasonal changes in diets for sage-grouse and provides a list of forbs that have been consumed by sage-grouse. To read more go to www.utahcbcp.org/files/uploads/publications/Sage-Grouse_DietFactSheet2015.pdf

Power Lines and Sage-Grouse

Erica Hansen and Cheyenne Stewart, USU graduate students and their advisor Nicki Frey analyzed sage-grouse habitat selection and responses in Utah's Bald Hills Sage-grouse Management Area to the construction of a new transmission line. They reported that siting new lines in existing corridors may alleviate the negative impacts of new power lines. To read more go to www.berrymaninstitute.org/files/uploads/pdf/journal/fall2016/HansenEtal.pdf

Steve Petersen (BYU) and others analyzed data from the small sage-grouse population near an operating coal mine in Sink Valley, south of Alton, UT (see the article Sage-grouse go to School). They reported that while sage-grouse moved the lek site due to mine development, overall numbers were not impactrd by the mine. This research demonstrated that habitat improvements may mitigate the effects of human activities on sage-grouse. To read more go to www.berrymaninstitute.org/files/uploads/pdf/journal/fall2016/PetersenEtal.pdf

Bear Lake Tri-State Sage-Grouse Population

The population of sage-grouse that live in the Bear Lake Area use habitats in Idaho, Utah, and Wyoming. Casey Cardinal, USU graduate student working with Terry Messmer, reported that about a quarter of the population is migratory and only a few grouse moved into Wyoming. Reproduction in the population was lower than range-wide averages, at least for the 2 years of the study. This study further validates the Utah Plan strategy of identifying and protecting sage-grouse seasonal habitats. To read more go to www.berrymaninstitute.org/files/uploads/pdf/journal/fall2016/CardinalAndMessmer.pdf

Predator Control and Sage-Grouse

Elizabeth Orning, USU graduate student working with Julie Young, studied the impact of predator control, primarily coyote removal, on sage-grouse populations in the Big Horn Basin of Wyoming. They reported that predator management likely affected sage-grouse behavior, especially movement ecology. To read more go to www.berrymaninstitute.org/files/uploads/pdf/journal/fall2016/OrningAndYoung.pdf

Sage-Grouse Management Objectives

There are more people, and decisions being made, now concerning sage-grouse conservation than ever before. Understanding sage-grouse populations and their ecology is critical to avoiding well intended, but mistaken, management objectives for the species. USU Extension published a fact sheet to help decision makers create and address management objectives with the best available information and to avoid common pitfalls when it comes to this species. To read more go to www.utahcbcp.org/files/uploads/publications/ConsiderationsSage-GrouseManagementObjectives.pdf

Utah's Community-Based Conservation Program
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If it's not good for communities, it's not good for wildlife.

The Greater Sage-grouse Goes to School in Kanab

Although, scientists and biologists may know much about the biology of the greater sage-grouse, much of this information is published in scientific journals which are not readily accessible to most people. Dr. Nicki Frey, USU Extension Wildlife Specialist thought something needed to be done to correct this. So, in 2012, she developed the Wildlife Research Education Network (WREN) and worked with teachers and students to implement the program in Kanab High School, Kanab, Utah. Dr. Nicki Frey wanted to connect local high school students with research on sage-grouse she is conducting literally in their own backyards. Now, the high school students are now conducting their own research, learning more about sage-grouse and the how research itself is conducted using the scientific method. The students are in their fourth year of collecting data on sage-grouse in Sink Valley area of the Utah Panguitch Sage-grouse Management Area (SGMA). This SGMA is the southern-most distribution of sage-grouse in North America.

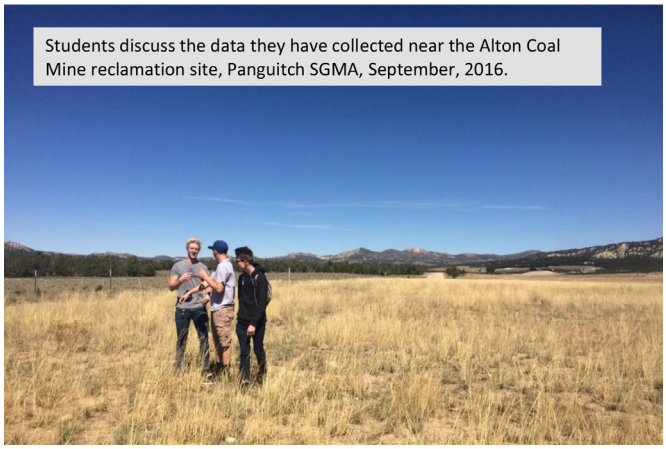
Students measure shrub height at a greater sage-grouse GPS location, April, 2016

To begin the program, the students get an in-class lesson on sage-grouse ecology. After this primer, they go out to the study site to learn for themselves. In the field, with the help of Lisa Church, a biologist with the Bureau of Land Management, Dr. Frey leads the students through training on basic vegetation data collection methods. They also learn about the role of radio-telemetry and new global positioning system (GPS) satellite transmitters plays in an on-going research project. They also learn how the data collected by GPS transmitters via satellite are downloaded into a database and used to make management decisions.

The group, using the scientific method, then formulates hypotheses on what they expect to find in areas where sage-grouse have been found compared to areas where the grouse have not been found. Once the students have collected their data, they regroup to analyze and discuss their results. They ponder the implications of what they've found and how their results might be changed or supported with a long-term study.

The Sink Valley study area is unique because it is located next to an active open-pit coal mine. Thus, they have been able to learn about sage-grouse behavioral adaptions to new noises and activities and record sage-grouse responses to the mine's reclamation efforts. The students also discuss how sage-grouse conservation can be balanced with the economic needs of the local community. Many of the students have relatives that live near or work for the mine.

Back in their classrooms, the students continue to follow the locations of a radio-marked sage-grouse through the winter. The satellite GPS locations are sent to their teacher weekly via scheduled emails. They use what they learned in the fall to study and discuss sage- grouse winter movements. In the spring, they return to the study site to count the number of sage-grouse males using the lekking and document how this number changes over time in response to management. Although, the teachers and students have a lot of demands on their time, those that participate in this program agree that it is worth the dedication because they can actually learn about sage-grouse and science by actually living it.



Students discuss the data they have collected near the Alton Coal Mine reclamation site, Panguitch SGMA, September, 2016.

Photos courtesy of Nicki Frey.

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.

www.utahcbcp.org