7/22/2021

EUREKA LIVESTOCK CREDIT PROJECT TOUR

The Eureka Livestock Credit Project on Three Bars Ranch in Eureka County offers some of the best late brood-rearing habitat in Central Nevada and is owned by Eureka Livestock, LLC. and Jim Etcheverry. Jim manages the land for production of organic beef, while recognizing its importance to greater sage-grouse and other wildlife. The ranch, which was owned by Jim's father, continues to exist off the grid with only a small solar array, and thus lacks powerline disturbance within its immediate vicinity. Multiple mines of the past and present are located nearby, however, and disturbances likely to impact sage-grouse have been significant in this part of the state, which makes the protection and enhancement of the habitat on the ranch even more valuable to greater sage-grouse.

A seed grant award from the program in 2017 allowed landowner participation with reduced financial risk. The Habitat Quantification Tool was run in that year and upon finalization of the management plan, 1,718 credits were made available. The removal of pinyon-juniper encroachment along the meadow's edge and in its vicinity (likely in the Fall of 2021) will add 24 sellable credits. Negotiations for sale of the credits are ongoing with goals of estate planning and keeping the ranch in the family for future generations in mind. The SEP expresses its gratitude to the Three Bars Ranch for participating and enrolling in the CCS to generate credits to potentially offset impacts to sage-grouse habitat.

SITE DESCRIPTION AND PROJECT AREA

- A multi-generation livestock ranch in Eureka County
- Used for production of certified organic beef and hay as well as historically sheep
- An oasis of rich, productive meadow habitat due to the presence of Coils Creek and intermittent streams.

Figure 1. Wet meadow that runs through multiple miles of the project.

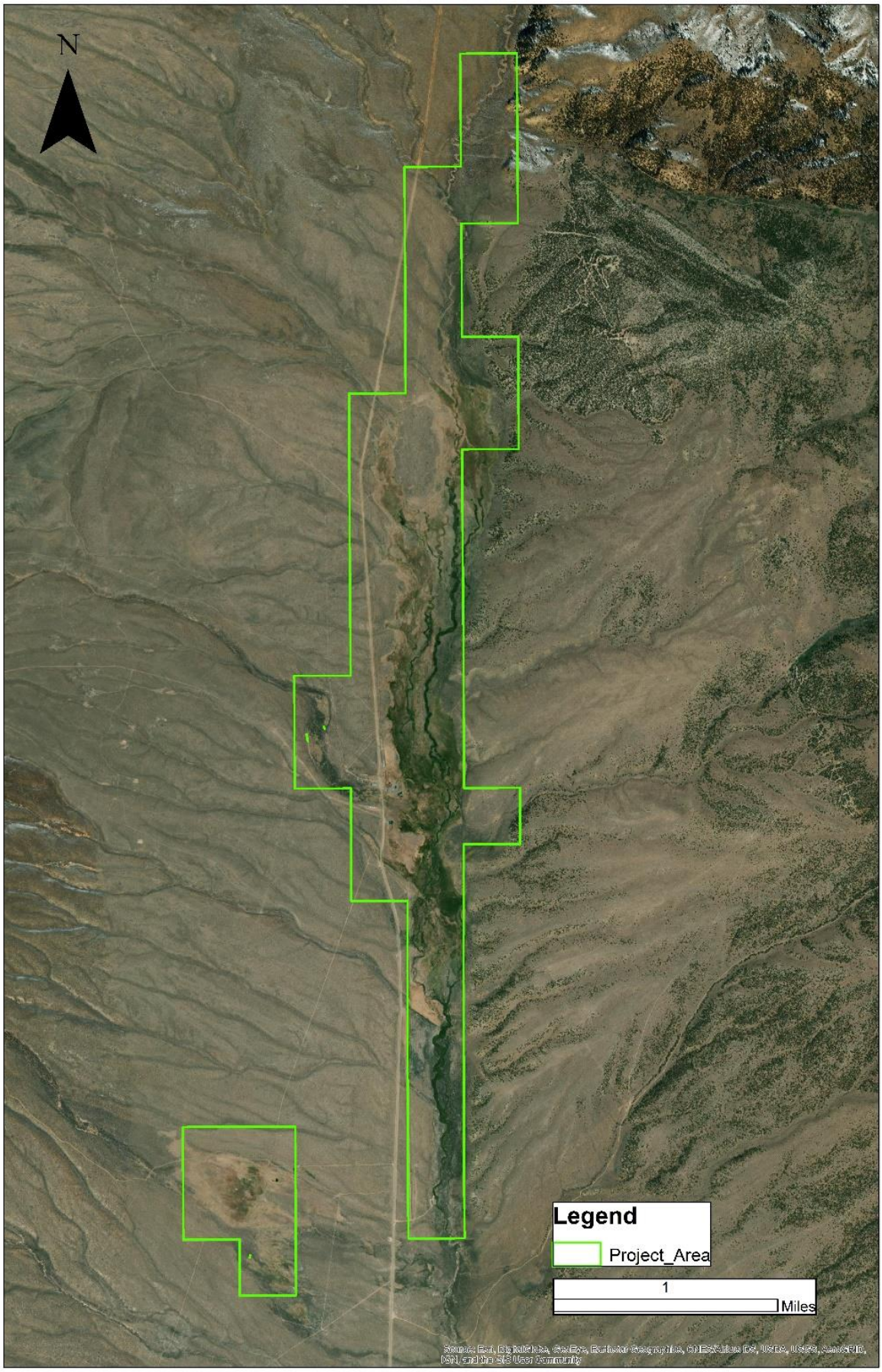

Figure 2. General project area which is more than 5 miles from North to South, and features Coil Creek where it accepts several other intermittent tributaries.

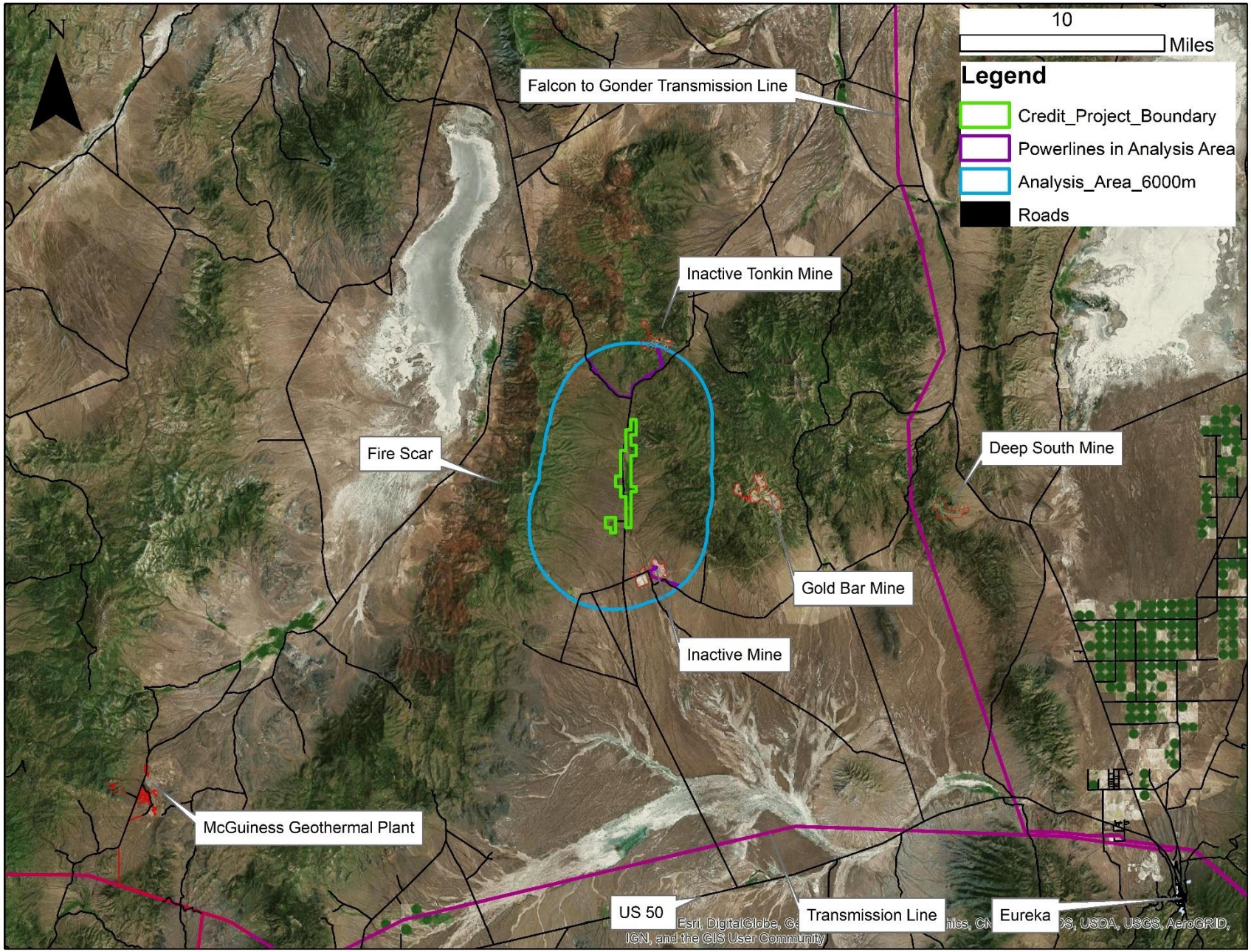

Figure 3. The map depicts the landscape with some of the largescale anthropogenic disturbances mapped.

VALUE TO GREATER SAGE GROUSE

- High sage-grouse usage with a location adjacent to 14 active and pending leks
- Dominated by uncommon, high-quality meadow and late brood-rearing habitat
- Project area of 1,624 acres is primarily within Priority and General Habitat Management Areas
- Off the grid with minimal anthropogenic disturbances in immediate proximity

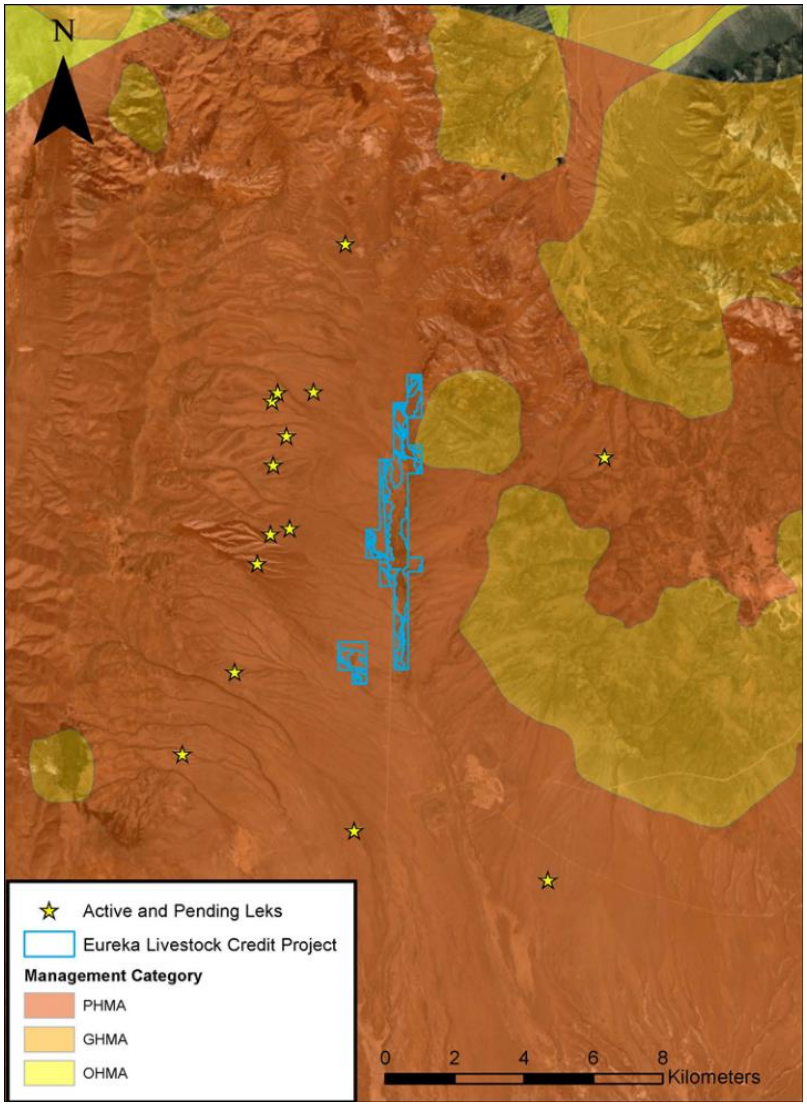

Figure 4. Abundant greater sage-grouse leks exist in proximity to the project and depend on the project area for late brood-rearing habitat.

ONGOING PROJECT MANAGEMENT ACTIONS

- ☒ Annual monitoring
- ☒ Maintaining good grazing management
- ☒ Maintaining or improving fencing and irrigation infrastructure
- ☒ Installing and maintaining cattleguard and fence to secure property perimeter
- ☒ Installing and maintaining fence to exclude livestock in meadow/stream improvement areas
- ☒ Implementation of weed treatments that are compliant with organic certification
- ☒ Installation of beaver dam analogs to improve meadow and stream function

PROJECT MANAGEMENT ACTIONS TO BE IMPLEMENTED

- ☐ Continuing work to improve meadow/stream function and protect upstream areas
- ☐ Removal and maintenance of pinyon-juniper on private lands adjacent to meadow
- ☐ Periodic Verification

THREATS TO BE ADDRESSED THROUGH THE PROJECT

- Unlikely powerline development due to landowner incentives to stay off the grid
- Reduced predator perches and predation on sage-grouse through pinyon-juniper removal adjacent to meadow
- Improved oversight of the project by the state to help address any issues that arise
- Improved efforts to reduce threats to function of the meadow including headcutting and channel incision

ADDRESSING MEADOW, STREAM, AND RIPARIAN ISSUES

- Threats to the main meadow found by the SETT from headcutting in the lower meadow that originated years ago
- Initial steps taken through NDF Conservation Camps to fence/exclude livestock from the area, and elevate the main headcut channel
- Additional seed funds were sought in 2019 to help address these issues
- Plans as to how to best move forward are still in development

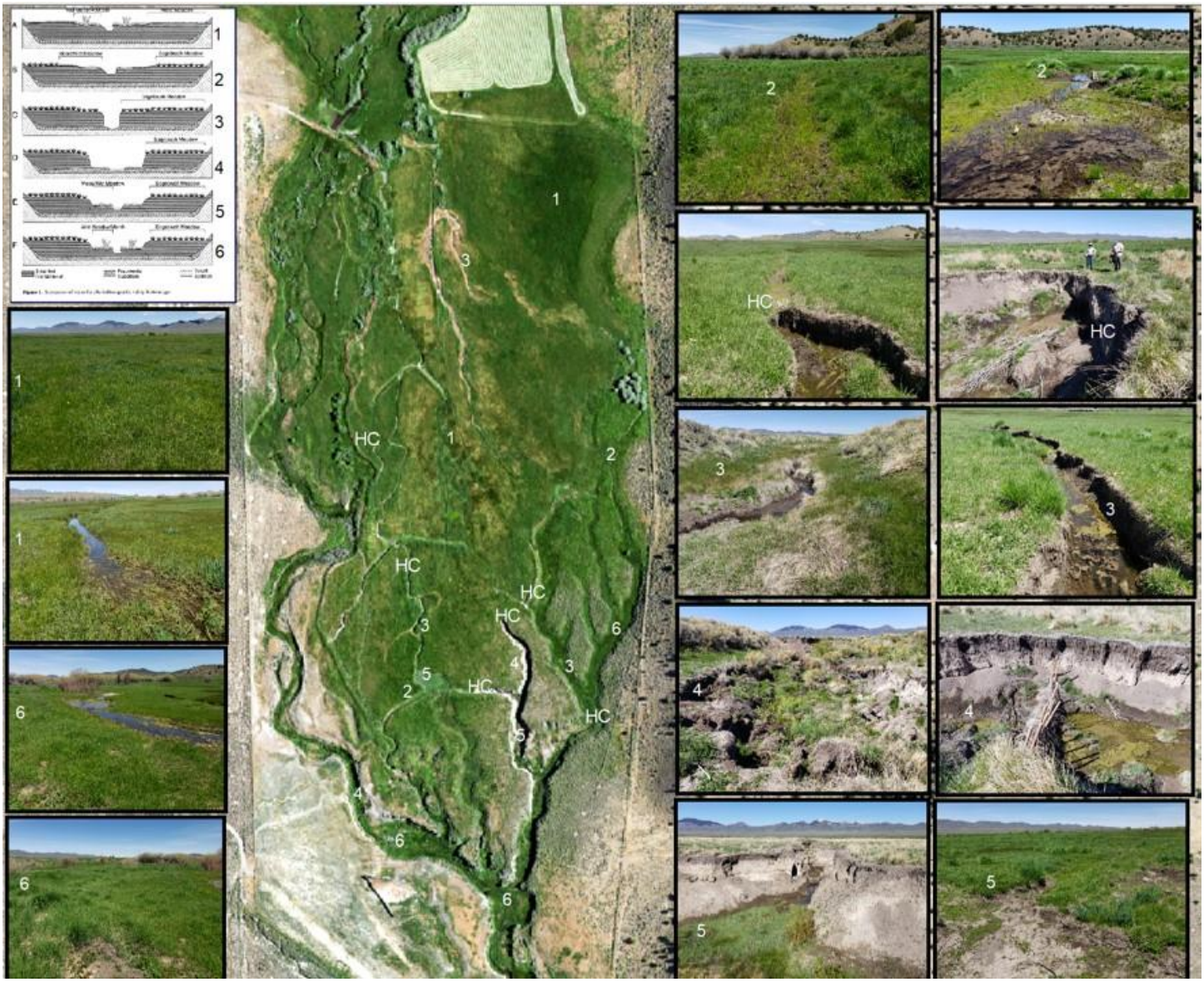

Figure 5. The graphic above, produced by SEC Council member Sherm Swanson, depicts aerial imagery of the area where active headcutting is located and deep channels are migrating upstream capturing further flows and reducing meadow moisture. The channel incision and recovery diagram of cross sections is used to show some of the locations where head cuts (HC) and various states (1-6) occur.

Revetments are likely necessary to reduce the potential of these headcuts migrating upstream which would cut deep channels that would then accept more water and reduce floodplain access of the main meadow causing it to dehydrate. These revetments would likely be constructed to spread out the area where a plunge pool or steep drop in elevation would otherwise cause erosion and headward cutting. These shaped areas would then be armored with erosion resistant materials and deeply rooted riparian vegetation. Goals of the effort to improve this area are to reduce the risk of dehydrating and shrinking the meadows and losing the late brood rearing values to greater sage-grouse, green forbs in summer, which helped cause a high credit yield for the landowner. The risks and dehydration/shrinking issues are also depicted in this diagram from the relatively new (2020) Lentic PFC Assessment Handbook.

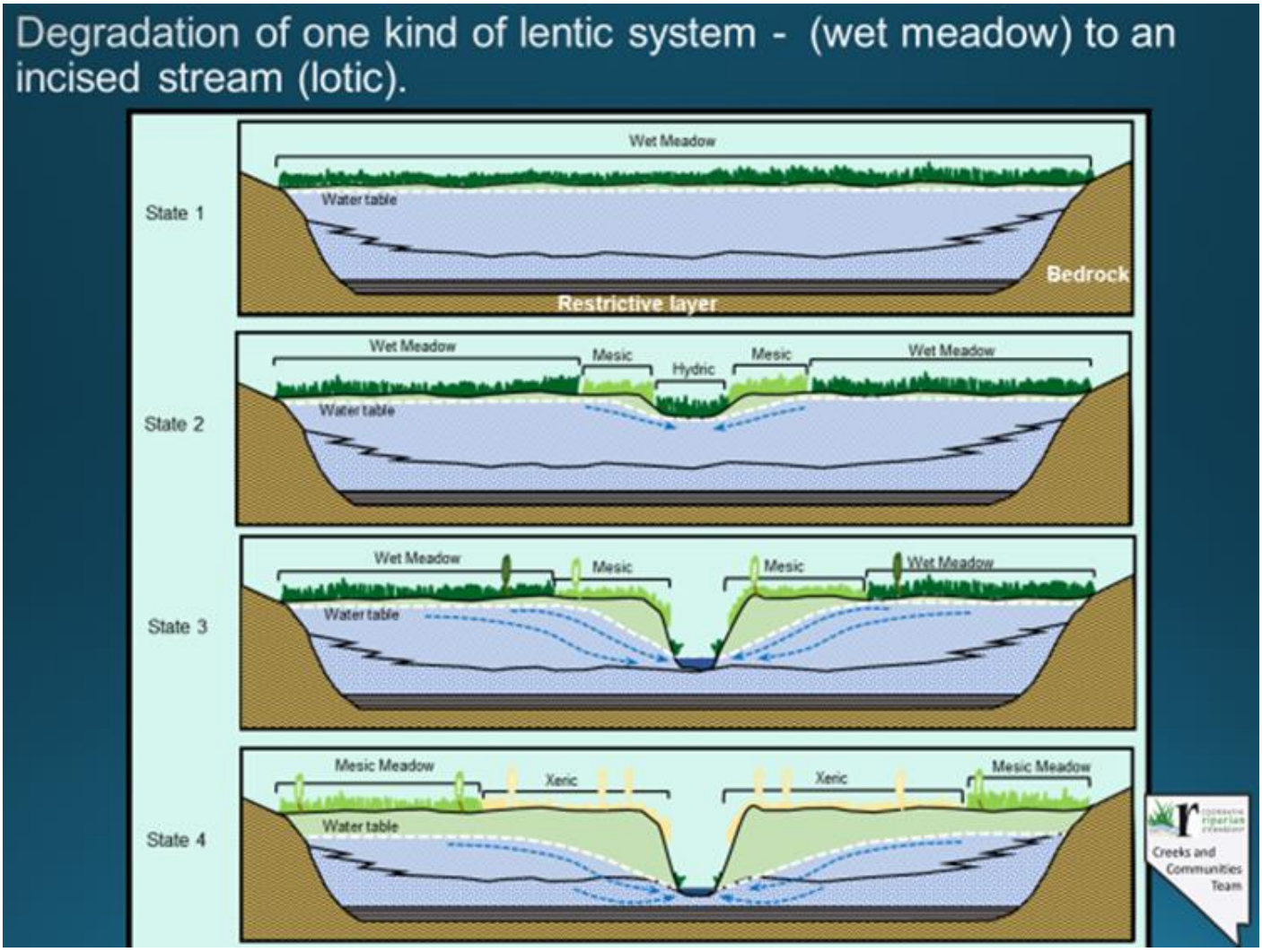

Figure 6. The graphic above depicts what occurs when channels form in meadows and gradually accept more and more flows while slowly dehydrating the areas around them. Halting further downcutting in the lower areas and working to maintain States 1 and 2 in the upper meadow are goals of efforts to address the stream and meadow issues.

Riparian attributes are also what makes the ranch productive for hay and provides valuable forage to livestock. Therefore, the effort should be mutually beneficial in protecting values for sage-grouse and for the landowner. These efforts will aim to be collaborative and cost-efficient for reducing risks and, if possible, to enhance productivity and habitat quality.

FINAL NOTE

The Eureka Livestock credit project shows the potential of what can happen when landowners and the State work collaboratively to protect and improve sage-grouse habitat and, subsequently, ranch conditions for years to come. Ultimately, follow-through will be required of the landowner for that to happen as well as the expertise and potentially other assistance from the public sector to ensure the right efforts are implemented on the landscape in a cost efficient manner that is also effective in reducing the present risks. In addition, the project's value to sage-grouse will last only as long as the public lands around it are well-maintained and the leks persist over time.