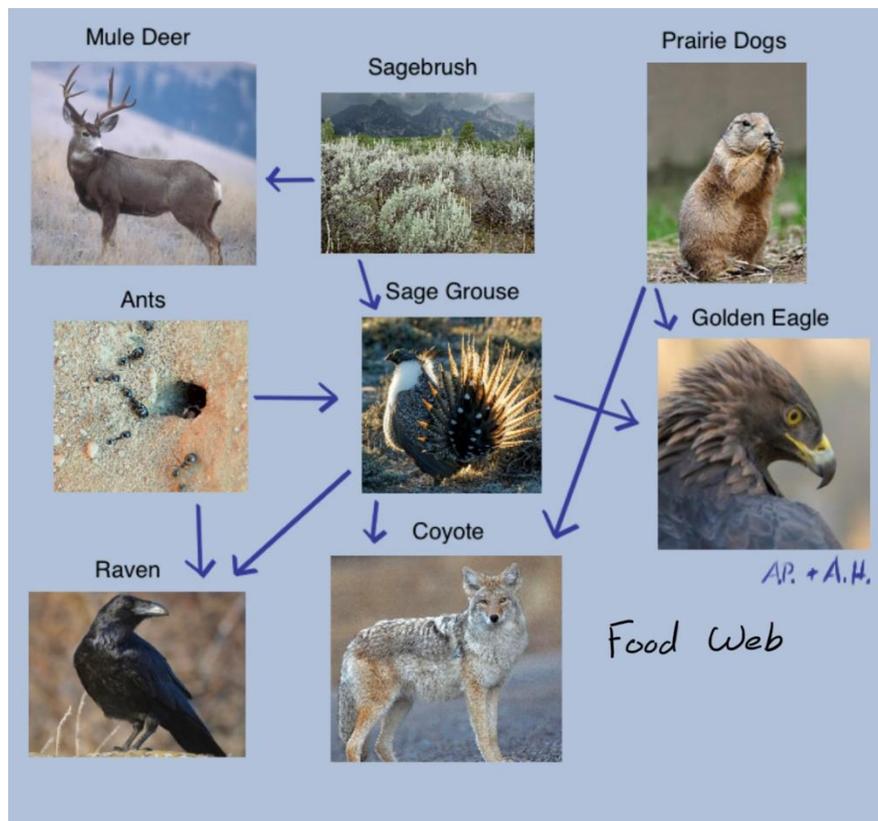


Proposal for Wilson Ranch Easement

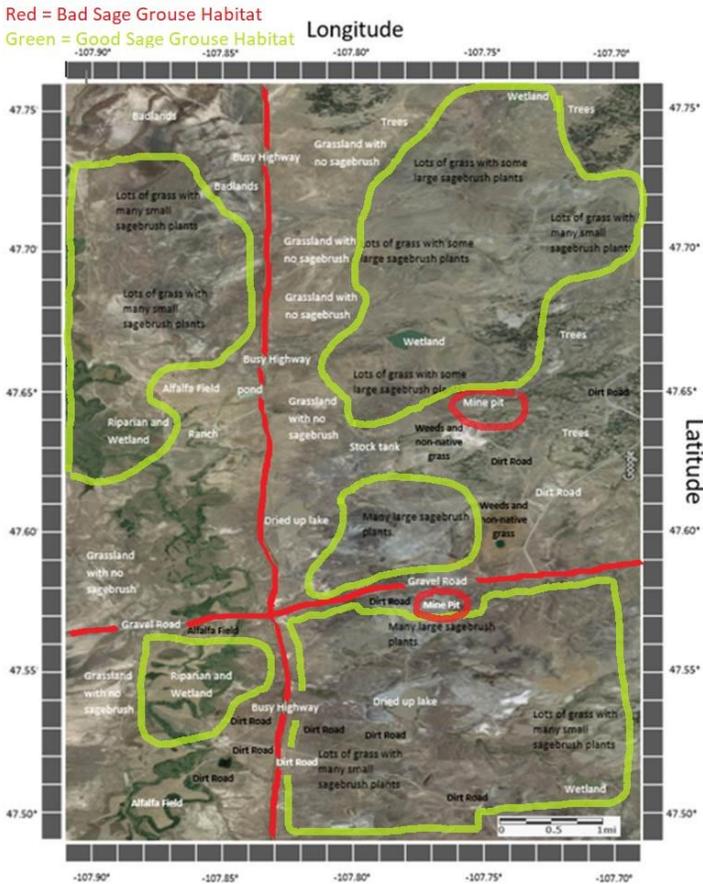
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The Wilson Ranch has been used for generations to raise cattle. It also supports some fields of hay and alfalfa that are used to feed the cattle. There are large grasslands that are shared by cattle and sage grouse. The sagebrush and sage grouse have been living on this land for a very long time. The sage grouse must mate and successfully raise chicks in order to continue surviving. This all starts with the conceiving of eggs. In the spring, sage grouse return to leks to mate, the males perform while the females begin choosing what mate they want. Afterwards, the female leaves to find a place that will be suitable to lay her eggs under sagebrush. After 4 weeks, the chicks hatch and will follow their mother in search of insects, as well as wildflowers. Depending on the amount of snow, the birds will migrate. By winter, they have a strict diet of sagebrush. They will grow up and prepare for the mating season to come. However, many sage grouse are threatened with the loss of habitat, so our goal is to preserve land, and create a safer area for the species, along with any other wildlife that needs them. We propose safer fences, rotational grazing, and replanting as solutions.

The sage grouse niche is heavily dependent on sagebrush. The grouse need the sage brush for a safe place to lay eggs and hatch their young in the spring, but the brush is also an excellent source of food for them all year round. The brush provides camouflage and shade for hens and their chicks. The grouse also eat insects when they are young. On the other hand, the sage grouse is a staple food for many animals whatever the season. These animals could include ravens, eagles, and coyotes, along with others. (Below is a small food web that the sage grouse is heavily involved in.)

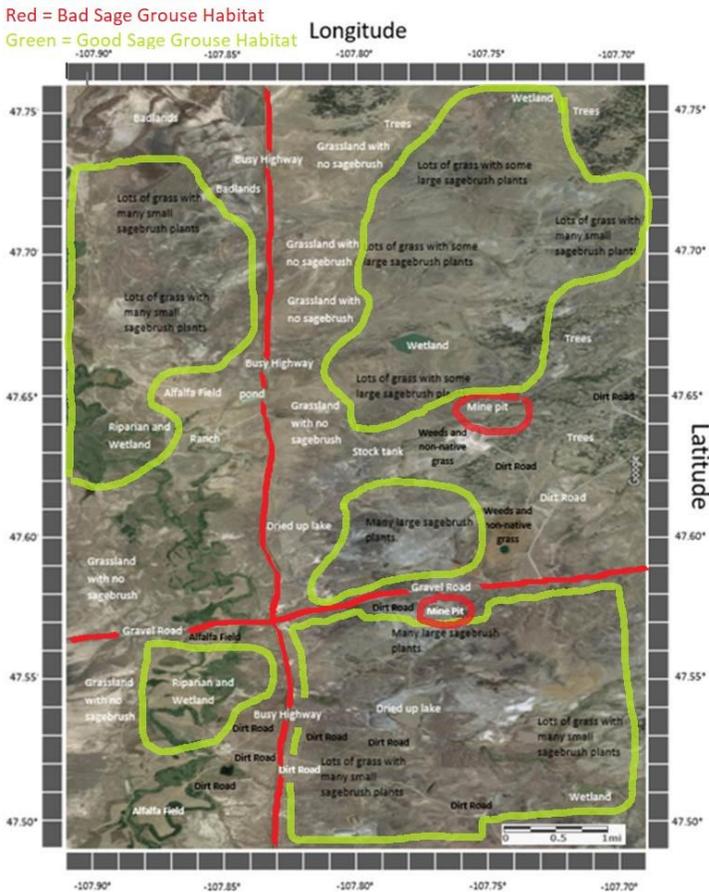


On the Wilson Ranch, sage grouse can be found in the areas where sagebrush is abundant, and in many of the wetlands in the area. According to the FWP data, most of the grouse are spending time in the region of 'low sage' that is north of the mine pits and east of the highway, in the region of large sage plants between the two mine sites, and in the sagebrush in the south-east corner of the ranch. Some of the sage grouse were also seen in the sage and wetlands west of the highway, meaning that the birds cross the road for food.



Currently, sage grouse populations in Montana are managed by the state through monitoring populations and trying to protect habitat. The state also limits the hunting of sage grouse. There are also many programs in place to assist landowners in making their land sage grouse friendly through physical and monetary resources. Montana Fish Wildlife and Parks also provide the options of conservation easements and leases to protect wildlife and their habitat. Protecting the sage grouse would mean protecting the many other species that depend on it. Without the sage grouse species, ravens, eagles, and coyotes will have a much more difficult time with finding a good staple food. Sage Grouse are also a very unique species that are found nowhere else in the world. If they lose their habitat and became extinct, the biodiversity of the earth would decrease.

For sage grouse, there are many natural threats such as predators to avoid. This is why they have many eggs. However, on the Wilson Ranch, there are some more man-made areas and threatening sections to be brought up for concern. (See the map below paragraph for areas.) The sections of grassland with no sagebrush, but are next to the busy highway, is definitely an area of great concern for the sage grouse. This is because they could get run over by vehicles since they cannot fly, and because there is little to no cover/food for them among the grasses. They absolutely need the sagebrush. The sections with weeds and non-native plants are also concerning, because they are directly below the areas with lots of grass and large sagebrush plants. This means that the wildfire danger levels increase with it, which causes a threat to sagebrush. In turn, this is troubling for sage grouse. The areas with gravel or dirt roads nearby are somewhat a threat, but as long as drivers and riders are careful and alert, it isn't that much of an issue.



There are a number of threats to the sage grouse population within the Wilson Ranch. All of the roads on the ranch are hazardous to grouse, as they could be hit by cars while crossing them. The mine pit is also a hazard, as it is destroying grouse habitat. The alfalfa fields and grasslands have the potential to encroach on sage grouse land. If the ranch expands its pastures for cattle, the birds may lose habitat.

For the Wilson Ranch, three smaller solutions are used to solve the main problem sage grouse are facing: habitat destruction. When the ranch is placed in a conservation easement, these three plans will be implemented. The first plan is to improve the safety of fencing around the major roads on the ranch. This would help sage grouse to avoid the roads, and keep them from dying if they ran into the fence. Fences with flags and bright colors could accomplish this goal, as well as structures without the tight-knit barbed wire that are usually used on ranches.

The second solution would take the form of rotational grazing. This is when livestock is moved to a different feeding ground over a certain period of time, so that the native grasses/plants don't get overgrazed. This would allow the ranch to be used to livestock, but also provide the sage grouse with abundant habitat. To expand this idea, if the easement should allow hunting, a rotational hunting ground should also occur, but never near a nest of sage grouse. The third solution would involve replanting native sagebrush certain areas of the ranch as illustrated on the map. This would help generations of sage grouse and would have a positive long term impact. If sagebrush were to be replanted, the future generations of sage grouse could have more shelter and food.



Rotational Grazing would allow sage grouse to have more access to areas of the ranch to forage for food and raise their chicks. It would also help to maintain the sage brush and prevent overgrazing. In the spring, it is best to avoid the area circled in blue (shown in map above), which is rotation 2 for hunters and 6 for cattle. In the summer, rotation number 3 and 4 for hunters and 5 and 6 for cattle/grazing should be avoided. In the fall and winter, rotation 2 for hunters, and 4 for grazing should be avoided, since the sagebrush will be the main item the sage grouse are consuming. Grazing/herds should be in rotation one in

the month of March, and as the sage grouse move out of their territory, the herd can move as well. In the month of September, hunters can start in section one, then the next year their area will be section two instead of one, but they can still hunt. Every year, the hunting grounds change so the grouse aren't overhunted in one area. For instance, 2019 grouse hunting would occur in section (rotation) 1, but in 2020 they are only permitted to hunt in section 2, and 2021 in section 3, etc. (Refer to map to see rotation grounds, and areas to avoid in spring.)



Sage would need to be planted in many areas of the ranch. This would create more habitat for sage grouse, and could be used to move the population centers away from dangerous areas like the mine pits. Most of the replanting would take place in areas away from hazards, like in the dried up lake bed south of the mines, and in the grasslands without sage brush to the east of the road that borders the low lying sage fields. It would also be advantageous to plant more sage in the lake bed to the west of the large sagebrush patch, because it is an area frequented by the grouse.



Fences on the Wilson Ranch can be hazardous to sage grouse. By changing fence design with markers and flags, sage grouse will avoid these obstacles naturally. Many of the fences that will need to be modified will be around the ranch, roads and mine pits to prevent the grouse from coming to close to these areas.

Created 2019 By Alexandra H., and Alexis P.