

Wildlife Evaluation & Land Management Plan for [REDACTED]

[REDACTED]

To: [REDACTED]

By: [REDACTED] Living Soils Laboratories LLC

### Wildlife Evaluation

The purpose of this wildlife evaluation and land management plan is to provide analysis development and conservation efforts to be done on [REDACTED]. As an Accredited Professional with the Savory Institute and Certified Laboratory Technician with the Soil Food Web School I wish to see robust wildlife and healthy soil throughout the country. Development can significantly inhibit wildlife populations and greatly effect water infiltration into watersheds and aquifers, but simultaneously the human population of [REDACTED] is growing very quickly, and our children need places to live. [REDACTED] in my opinion, is achieving responsible growth with wildlife conservation in mind inside of [REDACTED].

[REDACTED] The area to be developed has traditionally been hay fields and grazing for cattle after hay had been cut. The area that is to remain undeveloped includes gradual slope and steep slope facing East and North. The elevation ranges from 6480 feet to 7060 feet above sea level. The property, overall, can be described as high-altitude desert scrubland. See Exhibit A for maps. It is unlikely this property is considered good winter range as the hills are facing north and east and would accumulate more snow than a south facing hillside. Many rocky outcroppings throughout the hillsides.

An irrigation ditch that runs from the canal from the south end of flat lands to northern edge of the property. This irrigation ditch will be maintained but may be relocated in some locations for the purpose of development in order to serve other water users further downstream.

According to the developer a public trail will be cut and open to the public. The exact location of the trail is yet to be specified, but the plan is to connect it to an existing trail on the neighboring property to the south and that trail will be cut somewhere along [REDACTED].

[REDACTED] A livestock netting fence will be installed along the trail to confine dogs from causing stress to wildlife and livestock.

[REDACTED] I spent the hours the hours of [REDACTED] on the property. There was no snow on portion of the property, however the area had recently received rain in the prior week. Many cool season plants were sprouting and at their beginning growth stage. That day it was mostly overcast and partly cloudy, the temperature was about 50 degrees Fahrenheit.

The plant community of the sloped areas are primarily populated by shrubs, particular big sagebrush (*Artemisia Tridentata*) in varying stages of growth. Older Juniper Trees (*Juniperus sp*) were sparsely intermixed between the sage brush. On the ridge, draws, and northern facing slopes of the property Gambel Oak (*Quercus gambeli*) had been severely overbrowsed by Mule

Deer (*Odocoileus hemionus*). Terminal branches had been grazed off on younger individuals. Curlleaf Mountain Mohogany (*Cercocarpus ledifolius*) was observed with multiple individuals on the ridge of the property with obvious signs of deer rub. Prickly Wild Rose (*Rosa acicularis*) was sparsely intermixed throughout the property. These shrubs are excellent food sources for Mule Deer; 6 were observed during the time mentioned above.

Perennial grasses were found throughout the property. The lower flatlands have historically received irrigation which has resulted in thick sod of Timothy Grass (*Phleum pratense*), clovers (*Trefolium*), and Baltic Rush (*Juncus arcticus Willd*). The perennial grasses of the hillsides include Quackgrass (*Elymus repens*), Meadow Brome (*Bromus bierbersteinii*), cheatgrass (*Bromus tectorum*), and an unidentifiable perennial bunch grass. The seed heads had been grazed off by deer or cattle. Notably, many grasses near the summit of the hill had not been grazed at all this year by wildlife or cattle. Some grasses were undergoing oxidative decay in the higher elevations on the property. See Appendix A for list of trees and shrubs.

22 species of forbs were identified and 4 species of legumes were identified on the property (See Appendix B).

The property serves as a critical migration corridor for the Mule Deer, Elk, and Moose to travel between water sources particularly the Weber River Watershed and the Provo River Watershed. Animal signs were abundant throughout the property. Most obvious is Mule Deer (*Odocoileus hemionus*). Evidence consisted of deer droppings, tracks throughout, and severe over browsing of Gambel Oak and other shrubs.

Very little, if any evidence of Elk (*Cervus canadensis*) was present. Populations of elk would be difficult to support due their need of large spaces. [REDACTED]

[REDACTED] limit their ability to migrate to different ranges. The evidence is due to the lack of grazing of grasses of which elk rely on for their food source. Many grasses were oxidizing, and no elk sign was found. Elk may on rare occasion venture onto this property to migrate between the [REDACTED] Watersheds. No sign of Shiras Moose (*Alces alces shirasi*) was observed. As mentioned above the property may be an important migration corridor for these larger animals, but consistent residence of moose in particular is unlikely due to lack of a preferred food source. Moose prefer wetland, hydrophytic plants as their food source.

The presence of birds of prey are likely because prey animal signs were observed which likely indicates the presence of terrestrial predators as well. Rabbits (*Leporidae*), rodents (*Rodentia*), insects (*Insecta*), and reptiles (*Reptilia*) likely inhabit this area. Predators likely include mountain lion (*Puma concolor*), bobcat (*Lynx rufus*), coyotes (*Canis latrans*), stoats (*Mustela erminea*), badgers (*Taxidea taxus*), and birds of prey frequent this area due to the abundance of deer sign, rabbit sign, rodent sign, and bird sign.

No birds of prey were observed on November 6<sup>th</sup>, however, Golden Eagle (*Aquila chrysaetos*), Red-Tailed Hawk (*Buteo Jamaicensis*) are common birds of prey in the area. Many of the birds that inhabit this area are migratory and depend on these environments for survival. Two American Crows (*Corvus brachyrhynchos*) were observed which likely inhabit the area year round. Other species of birds common to the area that thrive in Gambel Oak country are:

Woodhouse's Western Scrub Jay (*Aphelocoma woodhouseii*), Dark-Eyed Junco (*Junco Hyemalis*), Evening Grosbeak (*Hesperiphona vespertine*), and Mountain BlueBird (*Sialia currucoides*). The amount of acreage to remain open will greatly benefit to maintaining bird populations

Historically, the low-lying flat lands were hayed, and the hay was taken elsewhere for winter grazing, and cattle would then graze on what was left over for 4-6 weeks depending on moisture and weather conditions.

Concerning the uplands, historically, 75 cow/calf pairs would be supported for 4-6 weeks during the spring (May-June) and fall (September-October). The number of livestock and duration of time would vary greatly depending on snowpack levels, previous year hay yields, cow conception rate and variety of other factors. In severe droughts, livestock would not be introduced to the area as well. According the USGS soil survey the upland acres can produce 1392 lbs of forage per acre in a year where the ground receives normal amounts of moisture for the area. There are approximately 400 acres of land to be left undisturbed, which can provide plenty of forage for 4-6 weeks for the aforementioned number of livestock. The period of recovery (mid-June to mid-September) being 120 days allows grasses, forbs, and shrubs to recover which, if managed properly can improve wildlife habitat and mineral/nutrient cycling.

Exciting future opportunities of further conservation and ecosystem restoration are possible with this much land to remain open. Many options are available to improve biodiversity of plant communities, animal communities, and soil health in the future.

In my opinion, development can often be highly destructive of wildlife habitat and soils. However, from a holistic perspective, this is a conservation development that will preserve the value of the wildlife and the soil for generations to come while simultaneously being a place for people to live as well. More than 85% of the property is to remain in open space. Most critically the migration routes of large game will be intact. The surrounding area beyond this property is under heavy pressure from development and this project will be one to emulate in its scale of conservation efforts and agricultural preservation.

### Land Management Plan

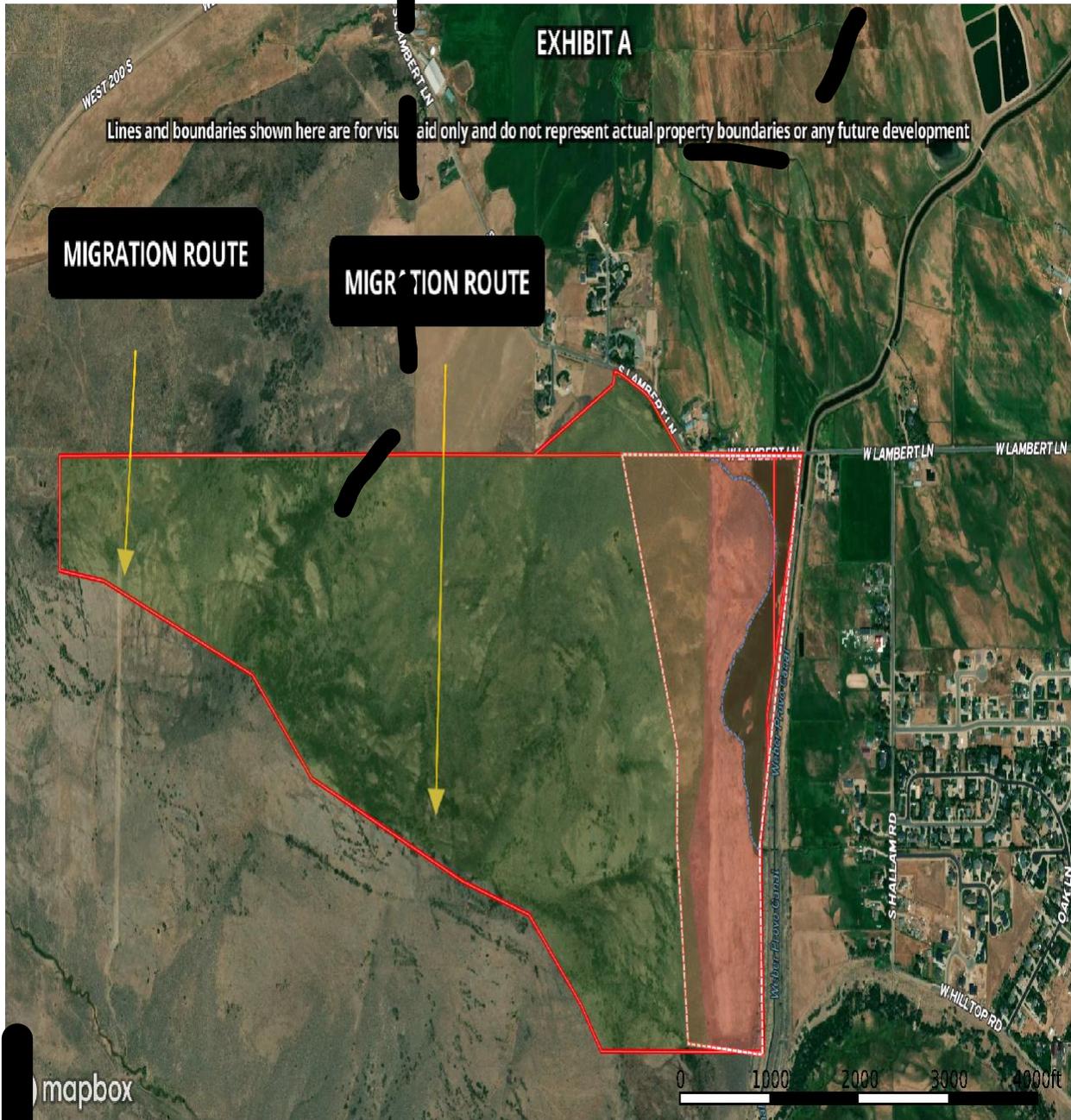
Future use of the land to remain undeveloped will strive to preserve wildlife habitat while simultaneously staying true to [REDACTED] agricultural roots. The same management practices for livestock mentioned above will be employed. Up to 75 cow calf/pairs or equivalent animal unit will inhabit the open space for 4-6 weeks during the spring (May-June) and fall (October-November). Much of the perimeter is already fenced, however some fencing may be relocated to meet the needs of the development and management of the livestock.

According the USGS the majority of the uplands on this property can produce anywhere between 990 lbs of forage/acre and 1979 lbs/acre on a yearly basis depending on moisture levels and other environmental factors in any given year. A normal year produces 1395 lbs of forage/acre/year according to the USGS for this area. Approximately 558,000 lbs of forage is available on those 400 acres that are to remain open. A lactating cow consumes 3.5% of their body weight a day. A

cow without a calf will consume 2-2.5% of her body weight a day. 75 cow/calf pairs will consume around 132,300 lbs of forage in 6 weeks assuming the average weight of a cow 1200 lbs. Some breeds of cattle are smaller and require less forage. In the fall, without calves, those cows would consume less, approximately 94,500 lbs of forage in a 6-week period. This property can easily support that many animals during the spring and fall. The 120-day rest period will allow for many of those plants to recover and be prepared for the fall grazing period. If managed properly livestock impact can greatly improve nutrient cycling, water infiltration, and biodiversity on this kind of landscape. The owner, if he/she wishes, could implement more water or fencing infrastructure to better support livestock and wildlife in the future. This would improve the health of the overall ecosystem that has existed here for eons.

For any further explanation or additional information please call Living Soils Laboratories LLC at [REDACTED]

St. Hidden Meadow Ranches  
Utah, AC +/-



Direction Stream To Remain Open Development Boundary

**M** This information is confidential to use in cases where it has been determined to be in the public interest. MapRight Services and its affiliates are not responsible for any use of this information in a manner other than that intended.

Appendix A (Photos taken 11/6/2021)



Curlleaf Mountain Mahogany



Gambel Oak(Scrub Oak)



Juniper Tree



Rocky out cropping on east facing slope



Big Sage Brush



View to west from easternmost ridge



East Facing slope



Scattered deer bones from predators or scavengers



Antler shed and deer manure



Rabbit burrow

## Appendix B

### *Legumes:*

Black Medic Clover (*Medicago lupulina*)

Sweet Clover (*Melilotus officinalis*)

White Dutch Clover (*Trifolium repens*)

Strawberry Clover (*Trifolium fragiferum*)

*Forbs:*

Cotton Thistle (*Onopordum acanthium*)

Dandelion (*Taraxacum*)

Pepper Grass (*Lepidium virginicum*)

Canada Thistle (*Cirsium arvense*)

Showy Daisy (*Erigeron Speciosus*)

Mallow (*Malva neglecta*)

Storks Bill (*Erodium cicutarium*)

Penny Cress (*Thlaspi arvense*)

Lamb's Ear (*Stachys byzantine*)

Yarrow (*Achillea millefolium*)

Golden Eye (*Heliomeris multiflora*)

Mullein (*Verbascum Thapsus*)

Hounds Tongue (*Cynoglossum officinale* L.)

Match Weed (*Lippia nodiflora*)

Prickly Pear (*Opuntia*)

Phlox (*phlox triovulata*)

Mahonia (*Mahonia repens*)

Tansy Mustard (*Descurainia pinnata*)

Pigweed (*Amaranthaceae amaranthus*)

Musk thistle (*Carduus nutans*)

Plantain (*Plantago major*)

