

**Natural Resources Analysis Report**  
**for the**  
**Proposed Northern Lights Subdivision in Teton County, Idaho**



**Prepared for:**

**Anne and Tony Campbell (Property Owners)**  
**Alpenglow Development, LLC**  
**718 Meadow Hills Drive**  
**Richland, WA 99352**

**Prepared by:**

**Sundance Consulting, Inc.**  
**333 S. Main, Suite 20**  
**Pocatello, ID 83204**



## Table of Contents

Introduction.....	1
Description of the Property (Existing Conditions) .....	1
Watercourses, Floodplains, Wetlands, and Riparian Areas.....	1
Geological or Seismic Hazards .....	2
Wildfire Danger .....	2
Methods.....	3
Survey Results .....	5
Vegetation .....	5
Habitat Assessment .....	5
Effects Determination .....	6
Mitigation and Land Management Plans .....	6
References.....	9
Appendix Photos.....	A-1

## List of Figures

Figure 1. Property Location. ....	4
Figure 2. Natural Resources Overlay with County Designated STGR breeding habitat (orange shading) in 75% of the property area (red dashed line). ....	7
Figure 3. Natural Resources Overlay with County Designated Big Game Migration Corridor (brown shading) and Seasonal Range throughout the property area (yellow dashed line). Teton is outlined in light blue. ....	8

## List of Acronyms

Code	Teton County Land Development Code
County	Teton County
IDFG	Idaho Department of Fish and Game
LLC	Limited Liability Company
NEHRP	National Earthquake Hazards Reduction Program
NRA	Natural Resource Analysis
PLLC	Professional Limited Liability Company
STGR	Sharp-Tailed Grouse
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey

## Introduction

Civilize PLLC, an engineering firm, on behalf of landowner Alpenglow Development, LLC (owned by Anne and Tony Campbell), submitted an application to Teton County (County), Idaho, to permit a 17-lot subdivision on two 40-acre parcels of agricultural land located less than 1 mile northeast of Teton in the County (Land Parcels ##RP06N45E280010 and #RP06N45E273000). The area is zoned A-2.5, which requires lot sizes to be a minimum of 2.5 acres. This Natural Resources Analysis (NRA) for the proposed Northern Lights Subdivision demonstrates compliance with Teton County Idaho Regulations outlined in Division 8-5-1, Overlay Regulations (Teton County, 2013a), and Division 9-3-2 (C-2-B), Natural Resource Analysis Standards (Teton County, 2013b).

The County conducted a Concept Plan Review and noted that both 40-acre parcels may be in what has been designated sharp-tailed grouse (*Tympanuchus phasianellus*) (STGR) breeding habitat and potentially situated within a big game migration corridor. The Columbian STGR subspecies *columbianus* is listed as an indicator species in the Indicator Species and Indicator Habitat section of the Title 9 Teton County Land Development Code (Code) (Teton County, 2013b). In addition to protecting wildlife corridors, several big game species, including elk (*Cervus canadensis*), mule deer (*Odocoileus hemionus*), and moose (*Alces alces*), are also listed as indicator species that are known to occur in the County (Idaho Department of Fish and Game [IDGF], 2023b) and are protected by the Code. The intent of this Code is to protect habitat for these indicator species. This applies to all new development within the County that occurs in areas identified as significant wildlife habitat as indicated on the County's Natural Resource Overlay Map.

In response to the application, the County requested that Civilize PLLC and Alpenglow Development, LLC, complete an NRA, including a Wildlife Habitat Assessment, before the preliminary plat application to determine whether potential impacts to the species or to a migration corridor would occur from the proposed development. Sundance Consulting, Inc., has been contracted to perform the NRA to determine the current natural resource conditions of the property and whether there is potential habitat to support STGR or a large mammal wildlife corridor.

## Description of the Property (Existing Conditions)

The property is located approximately 0.9-mile northeast of Teton, Idaho, and approximately 4 miles southeast of Felt, Idaho (See Figure 1). Access is via State Highway 33 and 1-mile to the east on West 7000 N. The property is then bound by West 7000 N to the north, North 2250 W to the west, and North 1750 W to the east. The parcels are both located in Township 6N Range 45E Sections 27 and 28 (around Latitude, Longitude:43.8211901, -111.1412089) at an elevation of 6,200-6,300 feet above sea level. The property can be found on the Teton Quadrangle, Idaho, U.S. Geological Survey (USGS) 7.5-minute topographic map (USGS, 2023a).

## Watercourses, Floodplains, Wetlands, and Riparian Areas

No floodplains or wetlands are present within the property boundary. The nearest riparian area is located along Spring Creek and North Leigh Creek approximately 0.15 mile east of the eastern

boundary of the property. These nearby riparian areas primarily consist of Palustrine emergent and shrub-scrub wetland types.

### **Geological or Seismic Hazards**

The USGS Earthquake Hazards Program has mapped Quaternary faults and folds in the United States (USGS, 2023b). Active faults mapped in the vicinity are the Teton Fault, Grand Valley Fault, Rexburg Fault, and Heise Fault (USGS, 2023c). The Teton Fault and Grand Valley Fault are thought to be capable of producing major earthquakes of a magnitude of six or greater, while the Rexburg Fault and Heise Fault are relatively inactive and not considered capable of producing major earthquakes (McCalpin et al., 1994; Pierce and Haller, 2011; Haller and Lewis, 2010). The active portion of the Teton Fault is approximately 20 miles east of the property. The active portion of the Grand Valley Fault is approximately 23 miles southwest of the property. Multiple minor earthquakes ranging between magnitude 2.6 and 4.2 with epicenters near the site have occurred in recent years, with the most recent event being a magnitude 2.7 earthquake with an epicenter 0.6 mile northeast of Driggs (USGS, 2023b). According to Idaho Geological Survey National Earthquake Hazards Reduction Program (NEHRP), the entire property is classified as Class 1 in terms of Liquefaction Susceptibility. This classification indicates that the area has a low liquefaction susceptibility, meaning that there is a low potential for saturation and presence of cohesionless sediments, making this area low risk with respect to liquefaction of saturated sediments during an earthquake event (Phillips, 2011).

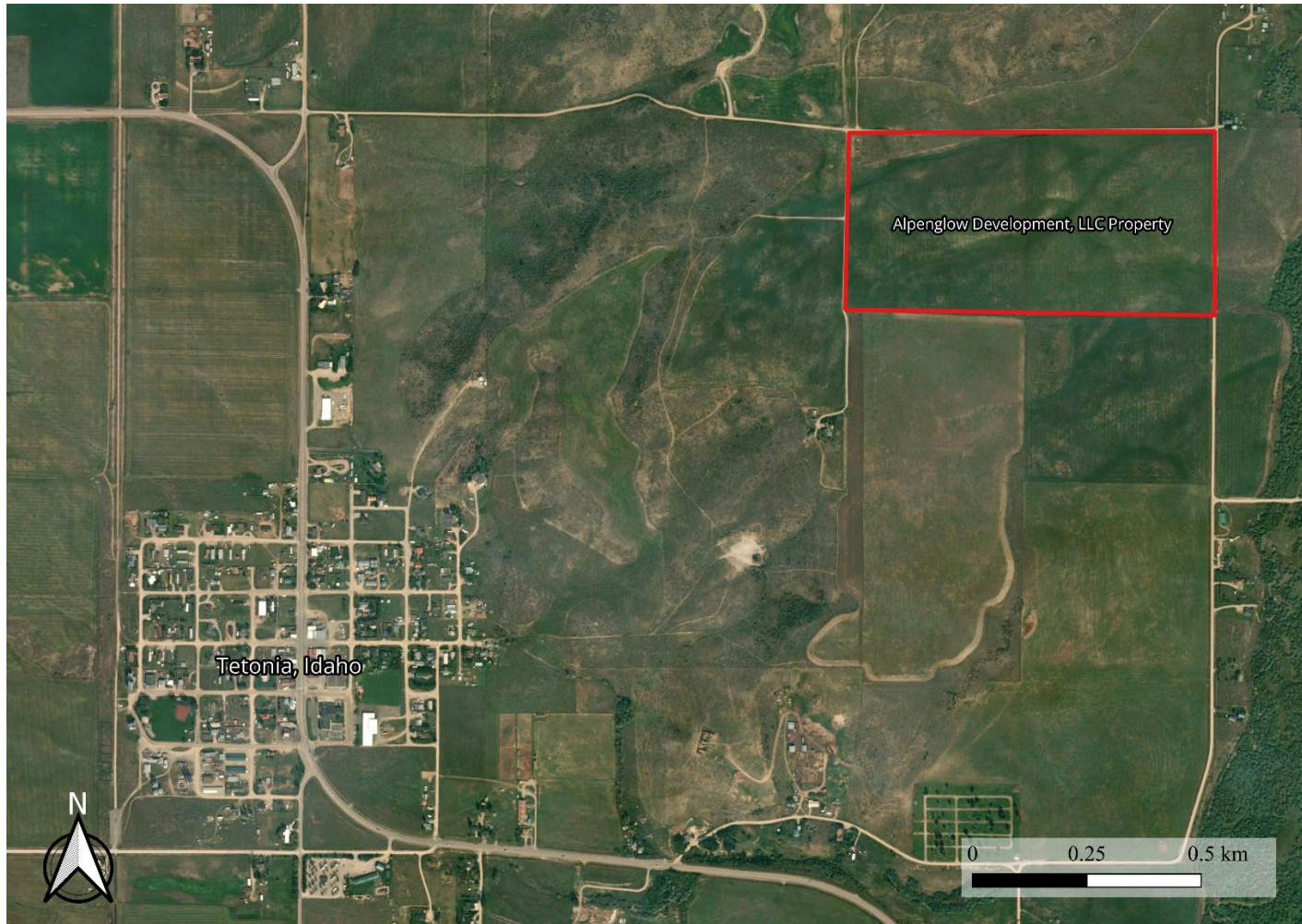
### **Wildfire Danger**

The USGS (2023d) developed state fire maps for use in characterizing fire behavior to assess the risks of wildland fire to communities. According to the “Communities at Risk from Wildland Fire of Idaho” interactive map, Tetonia, Idaho, is displayed as a community at risk for wildland fire events (USGS, 2023e). However, these data are limited as they were designed to characterize mid-scale patterns across the state (1:100,000), indicating that they are not designed to be used at a “project-level” scale (1:24,000 or less). Wildfire Risk to Communities, a U.S. Department of Agriculture (USDA) Forest Service website, categorizes Tetonia, Idaho, as a high-risk area for wildfires based on risk to homes, wildfire likelihood, and exposure (USDA Forest Service, 2023).

There are no forested areas on either parcel, thus relatively limited fuel exists for a wildfire event. Much of the property is historically cultivated hay fields, making them less susceptible to wildfires than forested areas. Although the Spring Creek and North Leigh Creek riparian areas 0.15 mile to the east of the property contain sufficient wildfire fuel, the vegetation and land coverage between the riparian area and property is sparse and inconsistent, and likely would not provide enough fuel for a wildfire to reach the property. Additionally, the property is bounded by dirt roads on three sides, which may act as a firebreak in wildfire events, making it likely that the property would be considered as a low or moderate fire danger area.

## **Methods**

Desktop research using Google Earth was conducted to determine what types and coverages of habitat might be present on the property. A biologist conducted a site survey of the property on June 28, 2023. The entire property was walked beginning with boundary edges working inwards, and a separate walk was executed in the northwestern portion of the property containing native sagebrush and grasses. Pictures were taken documenting the plant communities in both the natural and cultivated areas (See Appendix: Photos). Observed plant and animal species present were recorded along with signs or remnants of animal activity.



**Figure 1. Property Location.**

## Survey Results

Most of the property is comprised of old hayfields and an agricultural meadow dominated by Kentucky bluegrass (*Poa pratensis*) and timothy grass (*Phleum pratense*). A small triangular section of the property in the northwest corner of the property is dominated by native silvery-green big sagebrush (*Artemisia tridentata*) and a variety of native wildflowers.

Observed bird species in the hayfield included many western meadowlarks (*Sturnella neglecta*) and one prairie falcon (*Falco mexicanus*). Additionally, the hayfield portion of the property was filled with mounds and small holes indicating a dense population of voles (*Microtus arvalis*). No signs of wildlife were observed in the upland sage portion of the property. Columbian STGR (*Tympanuchus phasianellus columbianus*) have been confirmed to be present in the County (Idaho Department of Fish and Game [IDFG], 2023a) with the latest reported observation occurring in 2014; however, no signs of STGR were observed in the property during the survey. Additionally, moose (*Alces alces*) also have a confirmed presence in Teton County (IDFG, 2023b). No signs (droppings, tracks, trails) of large mammal presence or movement were observed in the property.

## Vegetation

Within the property, there were two distinct vegetation communities identified: a hayfield habitat in the majority of the property, and an upland sagebrush and native grass habitat in the northwest corner of the property. The hayfield that dominated the property was vegetated primarily with grass species such as Kentucky bluegrass (*Poa pratensis*), timothy grass (*Phleum pratense*), and cheatgrass (*Bromus tectorum*), interspersed with occasional thistle (*Cirsium spp.*), common pennycress (*Thlaspi arvense*), and yarrow (*Achillea millefolium*). A small portion of the parcel located in the northwest corner of the property consisted of upland sagebrush and native grass habitat, and was vegetated primarily with silvery-green big sagebrush (*Artemisia tridentata*) and interspersed native wildflowers such as one-flower sunflower (*Helianthella uniflora*), blue flax (*Linum lewisii*), blue penstemon (*Penstemon cyaneus*), scarlet gilia (*Ipomopsis aggregata*), and subalpine fleabane (*Erigeron peregrinus*).

## Habitat Assessment

STGR, and especially the subspecies *columbianus*, prefer bunchgrasses (*Agropyron spp.*, *Festuca spp.* and *Elmyrus spp.*) mixed with sagebrush and forbs for nesting and brood-rearing, as the structural diversity provides visibility for approaching predators and provides escape cover (NatureServe, 2023). Additionally, STGR generally select vegetative communities that are least modified by livestock grazing (Saab and Marks, 1992). Availability of suitable winter habitat (deciduous shrub and tree cover) may be critical in determining the ability of an area to support the species (NatureServe, 2023). Palustrine riparian areas may also provide critical winter cover and some populations depend on aspen-dominated areas in winter for cover, roosting, and as a food source (Marks and Marks, 1988; NatureServe, 2023).

The Teton County Natural Resource Overlay Map shows that 75% of the property is included as STGR breeding habitat, with the exception of the southwest corner (Teton County, 2023c; see Figure 2). The property contains a small portion of upland sagebrush habitat in the northwest corner of the property that may suffice as STGR habitat. However, at the time of the survey,

construction activity was occurring on the lot directly west of the property, which might debar its use by breeding STGR.

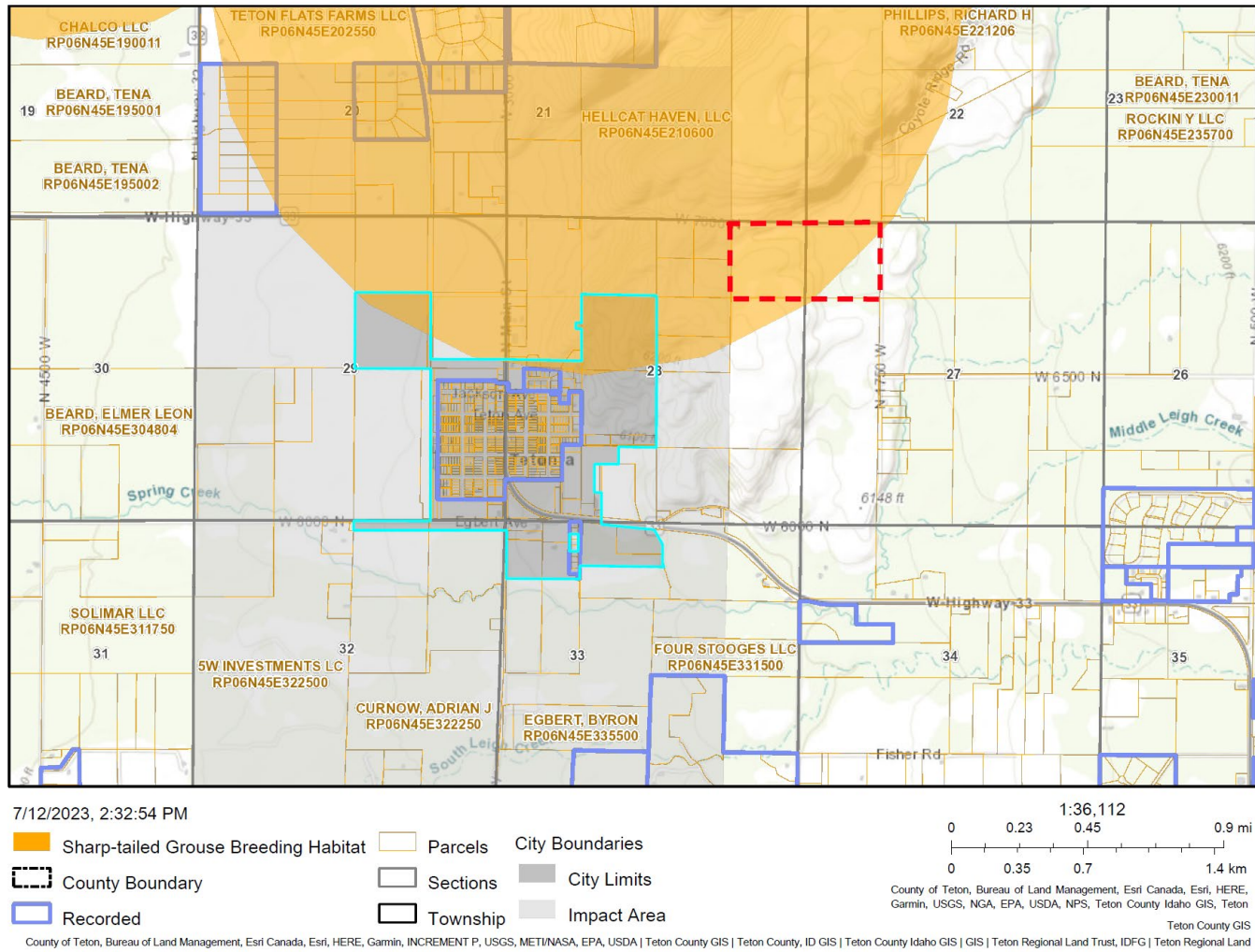
The Teton County Natural Resource Overlay Map layer, Big Game Migration Corridors and Seasonal Range, indicates that the entire property is included (Teton County, 2023c; see Figure 3). The property is comprised mainly of old hayfields with a small portion of upland sagebrush and native grasses in the upper northwest corner (Appendix A, Photo 1). The lack of tracks, pellets, and other signs of animal movement did not appear to support the property as being part of a critical wildlife corridor or range. The hayfield habitat that covers most of this property would be unsuitable habitat for large mammals. Surveys of the entire property failed to detect trails or other signs of large animal movement or use of the property.

### **Effects Determination**

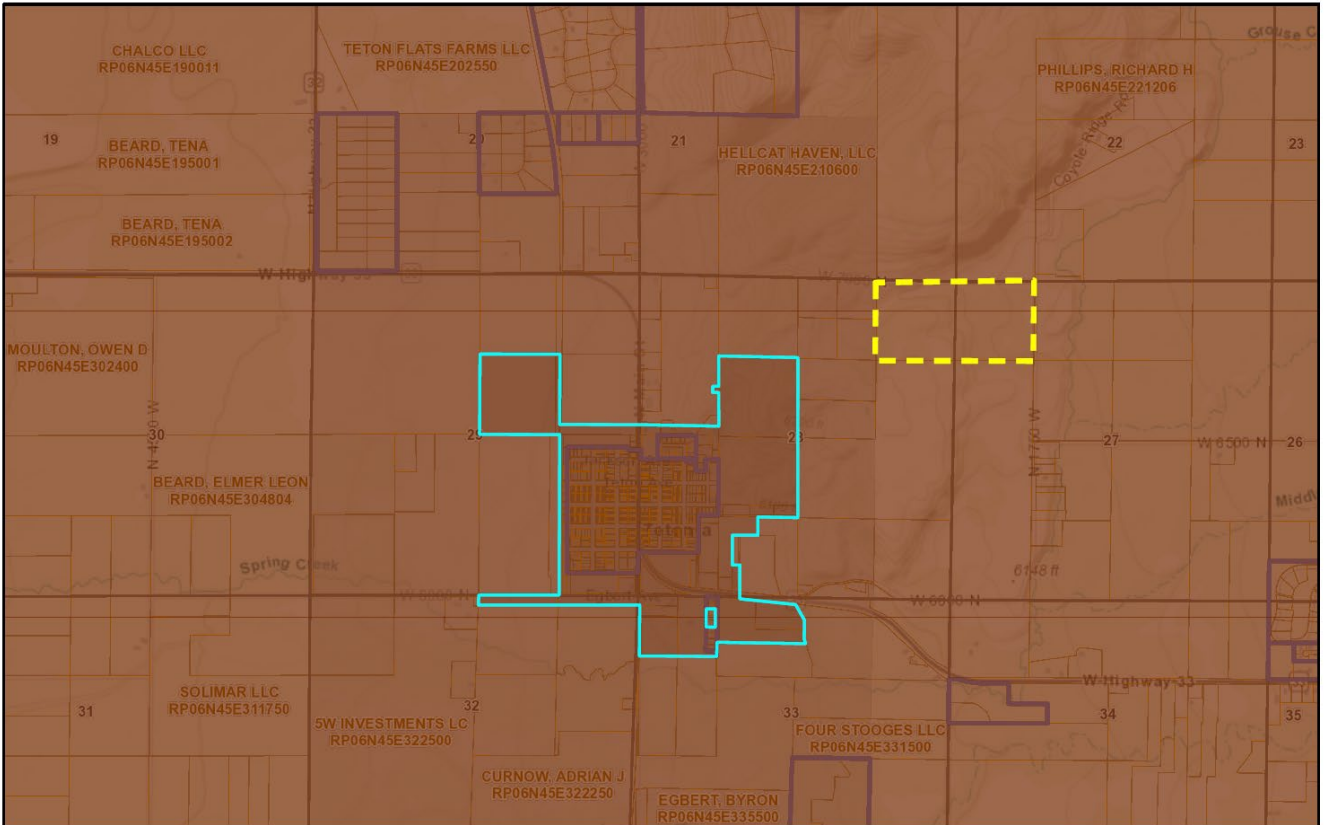
Potential effects on STGR and the big game wildlife corridor must consider the quantity and quality of habitat. Although the entire property is considered a Big Game Migration Corridor and Seasonal Range, the property has limited quality habitat within the overlay zones as the property consists almost entirely of low-quality agricultural hayfields. Additionally, the small portion of upland sagebrush and native grass habitat in the northwest corner of the property is located adjacent to an area that is both undergoing development and acting as a storage area for farm equipment. Both of these disturbances make it highly unlikely that STGR would utilize the area as breeding grounds. Despite an intensive survey of this area, no signs (pellets, tracks, trails) of large mammal use were observed nor any signs of STGR use. Therefore, the project is not likely to influence the big game migration corridor or breeding STGR.

### **Mitigation and Land Management Plans**

Due to the lack of potential effects on STGR breeding habitat or on a big game wildlife corridor or seasonal range, no mitigation or management is recommended at this time.

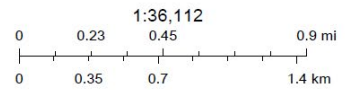


**Figure 2. Natural Resources Overlay with County Designated STGR breeding habitat (orange shading) in 75% of the property area (red dashed line).**



7/12/2023, 2:27:34 PM

- Big Game Migration Corridors and Seasonal Range
- Parcels
- City Boundaries
- County Boundary
- Sections
- City Limits
- Recorded
- Township
- Impact Area



County of Teton, Bureau of Land Management, Esri Canada, Esri, HERE, Garmin, USGS, NGA, EPA, USDA, NPS, Teton County Idaho GIS, Teton County GIS, Teton Regional Land Trust, IDFG | Teton Regional Land

**Figure 3. Natural Resources Overlay with County Designated Big Game Migration Corridor (brown shading) and Seasonal Range throughout the property area (yellow dashed line). Tetonia is outlined in light blue.**

## References

- Haller, K.M., and R.S. Lewis, compilers, 2010, Fault number 620, Rexburg fault, in Quaternary fault and fold database of the United States: U.S. Geological Survey website, <https://earthquakes.usgs.gov/hazards/qfaults>. Accessed July 7, 2023.
- Idaho Department of Fish and Game (IDFG). 2023a. Columbian sharp-tailed grouse observations for Teton County. Accessed July 7, 2023. <https://idfg.idaho.gov/species/>
- IDFG. 2023b. Moose observations for Teton County. Accessed July 7, 2023. <https://idfg.idaho.gov/species/taxa/77108>
- Marks, J. S., and V. S. Marks. 1988. Winter habitat use by Columbian Sharp-tailed Grouse in western Idaho. *Journal of Wildlife Management* 52:743-746.
- McCalpin, J.P., M.N. Machette, and K.M. Haller, compilers, 1994, Fault number 726a, Grand Valley fault, Swan Valley section, in Quaternary fault and fold database of the United States: U.S. Geological Survey website, <https://earthquakes.usgs.gov/hazards/qfaults>
- Nature Serve. 2023. Sharp-tailed grouse. Accessed July 7, 2023. [https://explorer.natureserve.org/Taxon/ELEMENT\\_GLOBAL.2.104539/Tympanuchus\\_phasianellus\\_columbianus](https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.104539/Tympanuchus_phasianellus_columbianus)
- Phillips, W.M. 2011. Liquefaction Susceptibility Map of Teton County, Idaho. Idaho Geological Survey. <https://www.idahogeology.org/product/dd-6>. Accessed July 7, 2023.
- Pierce, K.L., and K.M. Haller, compilers, 2011, Fault number 768d, Teton fault, southern section, in Quaternary fault and fold database of the United States: U.S. Geological Survey website, <https://earthquakes.usgs.gov/hazards/qfaults>
- Saab, V. A., and J. S. Marks. 1992. Summer habitat use by Columbian sharp-tailed grouse in western Idaho. *Great Basin Nat.* 52:166-173.
- Teton County. 2013a. Teton County Idaho Zoning Ordinance Title 8. Rev. May 16, 2013. Teton County, ID.
- Teton County. 2013b. Teton County Subdivision Regulations Title 9. Rev. September 9, 2013. Teton County, ID.
- Teton County Planning and Zoning Department. 2023c. Teton County Natural Resource Overlay Maps. Accessed July 7, 2023. <https://tetonidaho.maps.arcgis.com/apps/webappviewer/index.html?id=a539283310d74761b0ab14be32e9b399>
- U.S. Department of Agriculture (USDA) Forest Service. 2023. Wildfire Risk to Communities. <https://wildfirerisk.org/explore/overview/16/16081/1600080470/>. Accessed July 7, 2023.
- U.S. Geological Survey (USGS). 2023a. Teton Quadrangle, Idaho. 7.5-minute Series. 2011. Accessed via <https://ngmdb.usgs.gov/topoview/> on July 7, 2023.
- USGS. 2023b. Earthquakes Hazard Program. Accessed July 7, 2023. <https://www.usgs.gov/programs/earthquake-hazards>

USGS. 2023c. Interactive U.S. Fault Map. Accessed July 7, 2023.

<https://www.usgs.gov/tools/interactive-us-fault-map>

USGS. 2023d. Wildland Urban Interface of Idaho.

<https://www.sciencebase.gov/catalog/item/4fc67e82e4b0f02c1d6a8115>. Accessed July 7, 2023.

USGS. 2023e. Communities at Risk from Wildland Fire of Idaho.

<https://www.sciencebase.gov/catalog/item/imap/4fc6482ce4b0f02c1d6a7fa8>. Accessed July 7, 2023.

## Appendix A. Photos



Photo 1. Northeast corner of property showing homogenous agricultural hayfield dominated by smooth meadow-grass and timothy grass.



Photo 2. From W 7000 N looking towards the small portion of sagebrush and grass dominated habitat. Note: home construction occurring on adjoining lot.



Photo 3. A look at the sagebrush, grasses, and wildflowers in the northwest corner of the property.