

**Ecological Assessment of Sage-Grouse in the area Surrounding
T-24 and T-25**

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1.0 Introduction

Populations of Greater Sage-Grouse (*Centrocercus urophasianus*) have declined across their range over the past several decades (Connelly et al. 2004, Knick et al. 2010). These reductions have been associated with extensive degradation and loss of sagebrush (*Artemisia* spp.) habitat upon which these birds are dependent (Knick et al. 2010). As a result, greater sage-grouse have been petitioned multiple times since 1999 for protection under the Endangered Species Act of 1973 (Connelly et al. 2004). The most recent review by the U.S. Fish and Wildlife Service indicates that Greater Sage-Grouse are considered a candidate species under the Endangered Species Act; therefore, careful monitoring of populations and habitats used by this species will facilitate land-use decisions and management of these birds (Shurtliff and Whiting 2010).

Recently, the U.S. Department of Energy (DOE) has proposed to provide an alternative route, other than the public highway, to transport several thousand shipments of materials and wastes between the Materials and Fuels Complex (MFC) and other Idaho National Laboratory (INL) Site facilities over the next 10 years (Hafla et al. 2010). These alternative routes (T-24 and T-25) are located between MFC and PBF. In conjunction with identifying and evaluating these alternative routes, previous environmental assessments have detailed the locations of active and historical sage-grouse leks, nesting sites, as well as seasonal use of the area by this species surrounding T-24 and T-25 (Vilord et al. 2005, Hafla et al. 2010). Additional surveys, however, were planned to be conducted in spring 2010 (Hafla et al. 2010). Herein, we report the findings of surveys conducted in spring 2010 to identify additional leks used by grouse,

as well as to assess attendance at two active and two historical leks in the vicinity of T-24 and T-25.

2.0 Methods

We surveyed T-24, T-25, and historical and active leks in the area surrounding T-24 and T-25 four times for sign of sage-grouse from April 5 to May 6 (Fig. 1). These surveys entailed driving T-24 and T-25, stopping the vehicle about every kilometer, turning off the engine, and listening for two minutes on each side of the vehicle for mating calls of sage-grouse using a parabolic microphone (Shurtliff and Whiting 2010). These microphones allowed us to hear and locate sage-grouse up to 1.6 km (1 mi) away. We sampled 19 stops on T-24 and 17 stops on T-25. Additionally, we hiked to two historical and two active lek locations, scanned the area with binoculars to locate grouse, and listened in each cardinal direction for sage-grouse calls using a parabolic microphone (Fig. 1, Shurtliff and Whiting 2010).

All sampling was conducted during the morning hours between 0640 and 0800 to coincide with the time when sage-grouse display on leks, generally being one-half hour before sunrise to an hour and one half after sunrise (Shurtliff and Whiting 2010). At each sampling point, data that were collected included date, time, wind speed, temperature, cloud cover, grouse present, grouse heard, the presence of grouse sign (i.e., scat, feathers, or tracks). GPS coordinates were recorded with a hand-held GPS unit, and coordinates were recorded in NAD83 datum (Shurtliff and Whiting 2010).

3.0 Results

We did not hear or observe any sage-grouse at survey points along T-25, with the exception of points 6, 7, 8, and 16 (Fig. 1, Table 1). We did not hear or observe any sage-grouse at survey points along T-24 road, with the exception of points 2, 5, 6, 8, 10, 11, 12, 13, 14, 15, and 17 (Fig. 1, Table 1). Observers sampled each historical and active lek four times. We recorded sage-grouse activity on both active leks and the historical lek south of T-24 (Fig. 1, Table 2). No sage-grouse were heard or observed at the historical lek north of T-24 (Fig. 1, Table 2).

4.0 Discussion

Sage-grouse are an important species of sagebrush-steppe landscapes, and land use decisions in sagebrush-steppe ecosystems potentially influence this species and their habitat (Connelly et al. 2004, Knick et al. 2010). Indeed, conservation efforts have been enhanced for this bird as the recent finding has designated these birds as a candidate species for protection under the Endangered Species Act. Our report provides the description of sage-grouse activities in the areas surrounding T-24 and T-25 during spring 2010. These data will help will facilitate land-use decisions and management of this species on the INL Site (Shurtliff and Whiting 2010).

5.0 Literature Cited

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Table 1. Sampling locations with associated UTMs, date and wind speed, and descriptions of observations of sage-grouse sign along T-24 and T-25.

Area	Easting	Northing	Date	Wind (Km/h)	Observation
T-25 Point 6	356575	4822247	4/29/2010	2.0-5.0	Found dead male on road. Others potentially heard.
T-25 Point 7	357544	4822139	4/5/2010	0.0-2.0	2 male observed and flushed.
T-25 Point 8	358580	4822302	4/6/2010	2.0-5.0	May have heard sage-grouse but unable to locate visually.
T-25 Point 16	365211	4825910	4/14/2010	6.0-11.0	May have heard sage-grouse but unable to locate visually.
T-24 Point 2	364837	4827811	4/7/2010	0.0-2.0	1 grouse flushed.
T-24 Point 5	361955	4826999	4/7/2010	0.0-2.0	Scat in area
T-24 Point 6	361017	4826739	4/15/2010	0.0-2.0	May have heard sage-grouse but unable to locate visually.
T-24 Point 8	359249	4826227	5/3/2010	2.0-5.0	May have heard sage-grouse but unable to locate visually.
T-24 Point 10	357339	4825705	4/8/2010	0.0-2.0	1 female observed. Others potentially heard. Scat in area
T-24 Point 11	356390	4825441	4/8/2010	0.0-2.0	Sage-grouse heard but not visually located.
T-24 Point 12	355471	4825181	4/8/2010	2.0-5.0	1 female flushed, 1 male observed, scat in area.
T-24 Point 13	354517	4824913	4/8/2010	0.0-2.0	1 female flushed, scat in area
T-24 Point 14	353569	4824643	4/8/2010	0.0-2.0	1 male observed, 3 grouse flushed, scat in area.
T-24 Point 15	352577	4824366	4/8/2010	0.0-2.0	May have heard sage-grouse but unable to locate visually.
T-24 Point 17	350824	4823595	4/8/2010	0.0-2.0	Sage-grouse potentially heard, 1 grouse flushed.

Table 2. Historical and active leks sampled for sage-grouse activity in the area near and along T-24 and T-25.

Historical Leks			Date	Wind (Km/h)	Observation
T-24 North (active)	352188	4827130	4/9/2010	6.0-11.0	12 grouse flushed, 10 males and 2 females observed.
			4/19/2010	0.0-2.0	5 male and 4 female observed.
			4/27/2010	0.0-2.0	7 male and 3 female observed. Flushed 25 grouse.
			5/5/2010	0.0-2.0	8 male and 5 female observed. Flushed 13 grouse.
T-24 North (historical)	358271	4826529	4/9/2010	6.0-11.0	No sage-grouse observed.
			4/19/2010	6.0-11.0	No sage-grouse observed.
			4/27/2010	0.0-2.0	No sage-grouse observed.
			5/5/2010	0.0-2.0	No sage-grouse observed.
T-24 South (active)	362293	4826373	4/12/2010	0.0-2.0	Grouse potentially heard. Eagle flushed 9 grouse.
			4/20/2010	2.0-5.0	7 males and 9 females observed.
			4/28/2010	12.0-19.0	No sage-grouse observed
			5/6/2010	6.0-11.0	12 males and 6 females observed. Flushed 18 grouse.
T-24 South (historical)	362078	4824933	4/12/2010	6.0-11.0	No sage-grouse observed.
			4/20/2010	2.0-5.0	No sage-grouse observed.
			4/28/2010	12.0-19.0	No sage-grouse observed.
			5/6/2010	6.0-11.0	Grouse potentially heard.

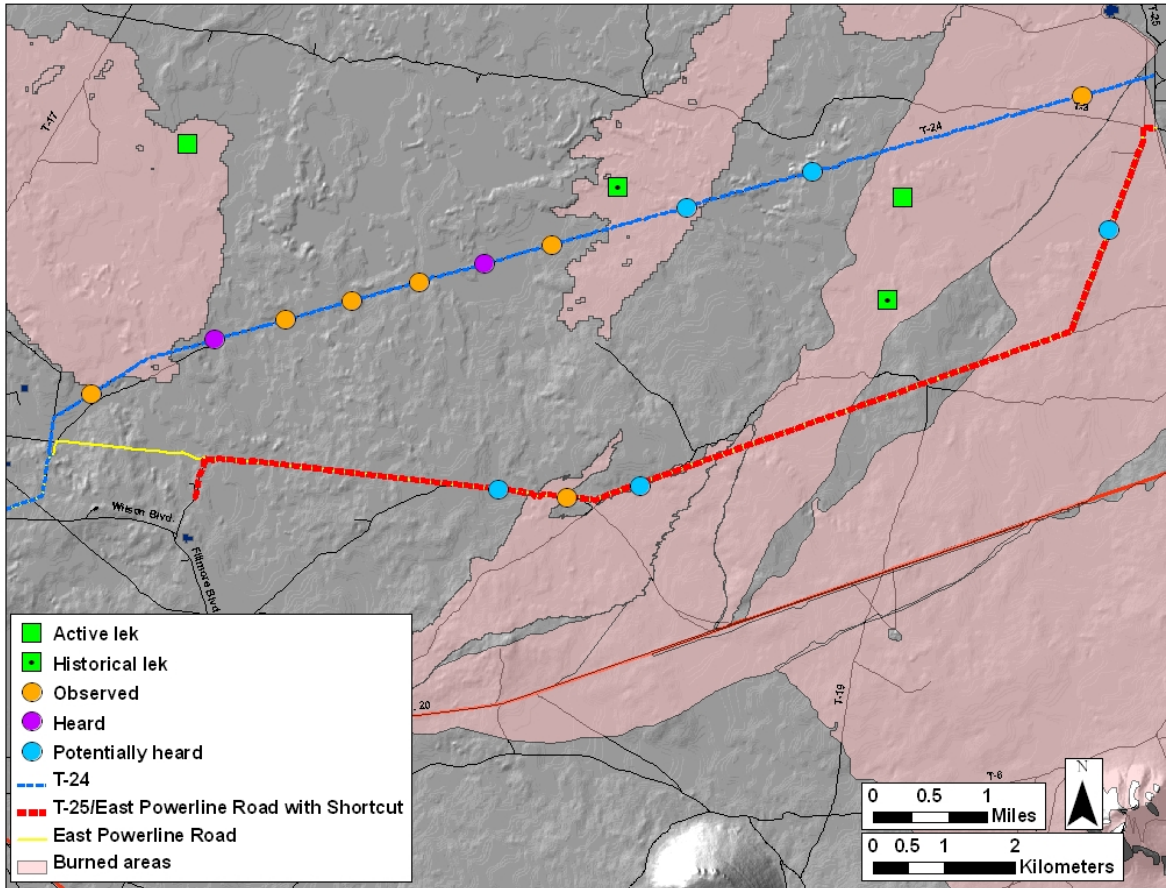


Figure 1. Locations of sage-grouse sign associated with surveys conducted around T-24 and T-25 during spring 2010.