

## Greater Sage-grouse (*Centrocercus urophasianus*)

### Species Status Statement.

#### Distribution

Greater sage-grouse can be found from southern Alberta to western South Dakota southward to central Oregon and southern Nevada and Utah (Schroder et al. 2004). It is present in large contiguous expanses of sagebrush habitat at the core of its range, and in more patchily distributed stands at the edges of its range, including Utah. Records for Utah are widely distributed throughout various sagebrush communities including Wyoming sagebrush, low and black sagebrush, and mountain sagebrush.

Table 1. Utah counties currently occupied by this species.

<b>Greater Sage-grouse</b>	
BEAVER	MORGAN
BOX ELDER	PIUTE
CACHE	RICH
CARBON	SANPETE
DAGGETT	SEVIER
DUCHESNE	SUMMIT
EMERY	TOOELE
GARFIELD	UINTAH
GRAND	UTAH
IRON	WASATCH
JUAB	WAYNE
KANE	WEBER
MILLARD	

#### Abundance and Trends

This species is relatively easy to detect, and managers have monitored populations for decades by counting males displaying on leks during the spring. Monitoring has documented range-wide declines in greater sage-grouse distribution and abundance over the last century (Connelly and Braun 1997, Schroder et al. 2004, Garton et al. 2011).

In Utah, this species occupies approximately 41% of its historic distribution (Beck et al. 2003). Utah has lek count records from as early as 1959, with statewide counts revealing an eight to ten year cycle in population growth and decline. Variations in lek search and lek counting effort confound the calculation of a precise rate of decline. However, overall populations have generally followed a downward trend.

- In 2003, Beck and colleagues estimated that average males counted per lek had declined across all Utah populations during the period from 1971 to 2000.
- In 2011, Garton and colleagues also showed declines in males counted per lek, in six of eight population zones analyzed that included Utah sage-grouse.
- Unpublished UDWR data indicates declines in cycle peaks from 2006 to 2015, and declines in average males per lek over the last two population peaks.
- Breeding Bird Survey estimates the global greater sage-grouse population trend declined at 3.43% per year from 1967 to 2015 (95% CI: -6.54 to -1.04, Sauer et al. 2017). Negative trends within Utah for the same period are more severe, with an estimated average annual decline of 4.28% (95% CI: -16.45 to 5.91, Sauer et al. 2017).
- Greater sage-grouse appear as “Near Threatened” on the IUCN Red List due to decreasing populations and other factors (BirdLife International 2016).

## **Statement of Habitat Needs and Threats to the Species.**

### Habitat Needs

Greater sage-grouse is a sagebrush obligate species, dependent on intact sagebrush ecosystems for food and cover (Connelly et al. 2011). Managers recognize three seasons of sage-grouse habitat: winter, breeding, and late brood rearing habitats.

- During winter sage-grouse are almost entirely dependent on sagebrush extending above snow cover for food resources (Connelly et al. 2011).
- Breeding habitats support lekking, nesting, and early brood rearing. They generally consist of a sagebrush overstory providing essential cover, with an understory of grasses and forbs providing food and some additional cover (UDWR 2009).
- Late brood rearing habitats generally consist of mesic areas including wet meadows and riparian corridors, which provide succulent forbs and arthropod prey for growing chicks (Connelly et al. 2011).

### Threats to the Species

Threats to greater sage-grouse in Utah are detailed in the 2019 Utah Conservation Plan for Greater Sage-grouse. Identified statewide threats include fire, invasive plant species, and pinyon-juniper woodland encroachment. Additional threats are present at varying levels at local populations including mineral development and infrastructure, renewable energy development and infrastructure, transmission corridors and tall structures, excessive predation, improper grazing and vegetation management, and recreation and OHV use (PLPCO 2019).

Table 2. Summary of a Utah threat assessment and prioritization completed in 2014. This assessment applies to the species' entire distribution within Utah. For species that also occur elsewhere, this assessment applies only to the portion of their distribution within Utah. The full

threat assessment provides more information including lower-ranked threats, crucial data gaps, methods, and definitions (UDWR 2015; Salafsky et al. 2008).

<b>Greater Sage-grouse</b>
<b>Very High</b>
Inappropriate Fire Frequency and Intensity
<b>High</b>
Brush Eradication / Vegetation Treatments
Invasive Plant Species – Non-native
Problematic Plant Species – Native Upland
Temperature Extremes
Well Pad Development
Water Developments for Livestock
<b>Medium</b>
Channel Downcutting (indirect, unintentional)
Disease – Endemic Organisms
Droughts
Housing and Urban Areas
Prescribed Fire
Problematic Animal Species – Native
Roads – Energy Development
Seeding Non-native Plants
Unintentional Spread of Non-native Species

### **Rationale for Designation.**

Continued threats to, and long-term declining trends in sagebrush habitats and sage-grouse abundance and distribution merit designation as a sensitive species (Garton et al. 2011, Beck et al. 2003, PLPCO 2019). This species has also been the subject of multiple Endangered Species Act listing petitions. The most recent decision in 2015 found greater sage-grouse not warranted for listing (USFWS 2015).

### **Economic Impacts of Sensitive Species Designation.**

Sensitive species designation is intended to facilitate and endorse coordinated management of this species, and to avoid additional economic impacts associated with Endangered Species Act listing. There have been increased costs of regulatory compliance for many land-use decisions including oil and gas development, especially due to habitat impacts from associated infrastructure. These costs will remain as long as the species is threatened with listing under the Endangered Species Act.

## Literature Cited.

- Beck, J.L., D.L. Mitchell and B.D. Maxfield. 2003. Changes in the distribution and status of sage-grouse in Utah. *Western North American Naturalist* 63:203–214.
- BirdLife International. 2016. *Centrocercus urophasianus*. *The IUCN Red List of Threatened Species* 2016:e.T22679503A92816586. <http://dx.doi.org/10.2305/IUCN.UK.2016-3.RLTS.T22679503A92816586.en>.
- Connelly, J.W. and C.E Braun. 1997. Long-term changes in sage grouse *Centrocercus urophasianus* populations in western North America. *Wildlife Biology*, 3:229-235.
- Connelly, J.W., E.T. Rinkes and C.E. Braun. 2011. Characteristics of greater sage-grouse habitats: a landscape species at micro- and macroscales. Pages 69–83 in S.T. Knick and J.W. Connelly (editors). *Greater Sage-Grouse: ecology and conservation of a landscape species and its habitats*. *Studies in Avian Biology* (vol. 38). University of California Press, Berkeley, California, USA.
- Garton, E.O., J.W. Connelly, J.S. Horne, C.A. Hagen, A. Moser, and M.A. Schroeder. 2011. Greater sage-grouse population dynamics and probability of persistence. Pages 293-382 in S.T. Knick and J.W. Connelly (editors). *Greater sage-grouse: ecology and conservation of a landscape species and its habitats*. *Studies in Avian Biology* (vol. 38), University of California Press, Berkeley, California, USA.
- Salafsky, N., D. Salzer, A.J. Stattersfield, C. Hilton-Taylor, R. Neugarten, S.H.M. Butchart, B. Collen, N. Cox, L.L. Master, S. O'Connor, and D. Wilkie. 2008. A standard lexicon for biodiversity conservation: unified classifications of threats and actions. *Conservation Biology* 22: 897–911.
- Sauer, J.R., D.K. Niven, J.E. Hines, D.J. Ziolkowski, Jr., K.L. Pardieck, J.E. Fallon, and W.A. Link. 2017. *The North American Breeding Bird Survey, Results and Analysis 1966-2015*. Version 2.07.2017 USGS Patuxent Wildlife Research Center, Laurel, Maryland, USA.
- Schroeder, M.A., C.L. Aldridge, A.D. Apa, J.R. Bohne, C.E. Braun, S.D. Bunnell, J.W. Connelly, P.A. Deibert, S.C. Gardner, M.A. Hilliard and G.D. Kobriger. 2004. Distribution of sage-grouse in North America. *The Condor* 106:363-376
- U.S. Fish and Wildlife Service [USFWS]. 2015. Endangered and threatened wildlife and plants; 12-month finding on a petition to list greater sage-grouse (*Centrocercus urophasianus*) as an endangered or threatened species. 80 FR 59857–59942.
- Utah Division of Wildlife Resources [UDWR]. 2009. *Utah Greater Sage-grouse Management Plan*. Utah Department of Natural Resources, Division of Wildlife Resources, Publication 09-17, Salt Lake City, Utah, USA.
- Utah Division of Wildlife Resources [UDWR]. 2015. *Utah Wildlife Action Plan: A plan for managing native wildlife species and their habitats to help prevent listing under the Endangered Species Act*. Publication number 15---14. Utah Division of Wildlife Resources, Salt Lake City, Utah, USA.

Utah's Public Lands Policy Coordinating Office [PLPCO]. 2019. Utah Conservation Plan for Greater Sage-grouse. Utah's Public Lands Policy Coordinating Office, Salt Lake City, Utah, USA.