



Addendum to the 2015 Sage-Grouse Translocation (Montana to Alberta) Final Environmental Assessment

Update to Relevant Resources in consideration of a 2023 translocation

May 12, 2022

Background:

In 2008, a collaborative project was initiated between Montana Fish, Wildlife and Parks (MFWP) and Alberta Environment and Parks (AEP) to augment the endangered population of Greater sage-grouse (*Centrocercus urophasianus*) in southeastern Alberta. Between 2011 and 2019, 118 sage-grouse were captured in Montana and translocated to Alberta. These birds were monitored remotely using satellite transmitters and have contributed to the Alberta population and have helped reduce the chances of extirpation of the species in Alberta.

Two Environmental Assessments (EA) were drafted in both 2010 and 2015 to assess the potential of moving up to 160 sage grouse in total from Montana to Alberta over a 10-year period. The most recent 2015 EA assessed the movement of up to 40 sage grouse in alternating years between 2016-2020 totaling 120 sage grouse. No significant impacts on the human and physical environment were identified in the EA process and FWP recommended the Fish and Wildlife Commission approve the translocation. The Montana Fish and Wildlife Commission approved the initial translocation of up to 40 sage grouse in 2011, and subsequently approved translocations in 2015 and 2019. Alberta Environment and Parks are now requesting the remaining 40 sage grouse under the 2015 EA be translocated in the spring of 2023.

Key Resource Considerations:

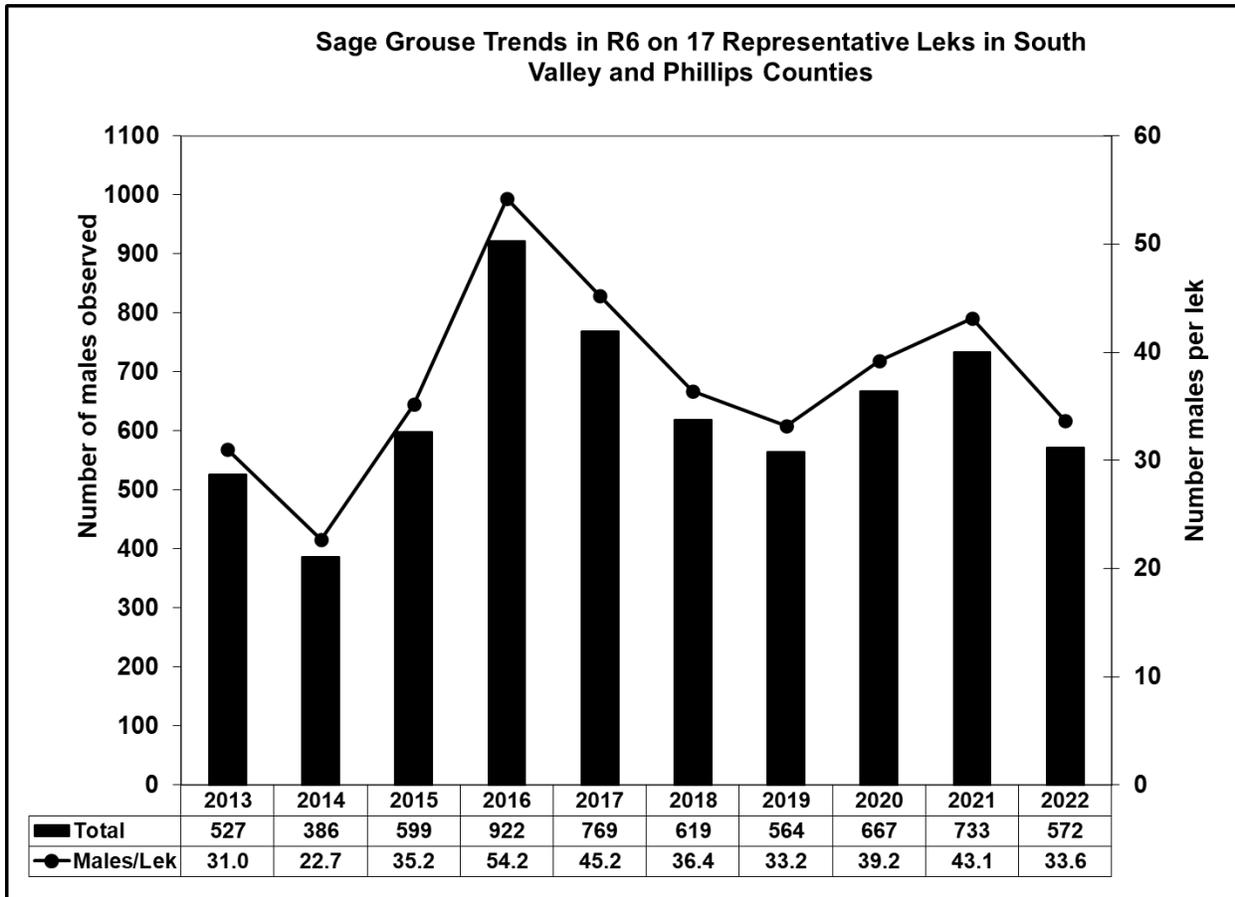
The 2015 EA evaluated four (4) relevant resources. Updated information and data to address these resources are included in the below:

Relevant Resource #1- Sage-grouse population effects of removing 40 sage grouse biennially from South Valley\ Phillips core area

1.1 Source population effects and thresholds

The 2015 EA looked at effects of removing 40 sage grouse biennially from a population that was estimated at 9,936 sage grouse based on male lek attendance averages between 2011 and 2015. During the period between 2011 and 2015, the total average high male count for

surveyed leks was 2,484. Based on this population estimate, the translocation would remove 0.6% (0.006) of the estimated hen population and 0.4% (0.004) of the total estimated sage-grouse population in Valley and Phillips Counties. Sage grouse populations have maintained since 2015 as evidenced by Adaptive Harvest Management (AHM) lek trends, indicating a similar minimum sage grouse population as what was assessed in 2015. This indicates the impact to sage grouse population in the source area will be similar to what was previously assessed.



Translocations are also dependent on sage grouse lek surveys completed the prior spring in South Valley and Phillips Counties on AHM sage grouse leks. If the prior year’s sage grouse lek survey indicated a population decrease below 45% of the long-term average, then no translocation would occur in that year. In 2022, sage-grouse male attendance on all Region 6 AHM leks was 11% below the long-term average. Furthermore, we would anticipate using south Valley County as the source population for the potential translocation. In 2022, male sage grouse attendance on AHM leks in south Valley County was 5% above the long-term average.

Relevant Resource #2 - Sage-grouse population effects in silver sagebrush habitat north of the Milk River in Montana and Alberta

2.1 Population effects and objectives

Short-term objectives were established to evaluate the success of translocating 40 sage-grouse. These objectives include an expected 10-21 nests and 27-57 fledged sage-grouse in year 1 from translocated sage grouse.

In 2016, 38 sage grouse were translocated and resulted in 19 nests located and an estimated 15 chicks fledged from translocated sage-grouse. These values are likely an underestimation due to the proportion of PTTs that were not able to be accurately tracked. Estimated nesting activity of unmonitored hens may have contributed one additional nest and two or three fledged chicks to the end of the 2016 breeding season. This would bring the total estimated contribution of translocated sage-grouse in “year 1” to 21 nests and 18 fledged chicks. Including the 10 surviving hens in 2017, all initiated nests have resulted in 6 additional chicks for a total of 24 fledged chicks in 2016-2017.

In 2019, 39 sage grouse were translocated and resulted in 16 nests and an estimated 9 chicks fledged in year 1. Including the surviving hens in 2020, all initiated nests resulted in 6 additional chicks for a total of 15 fledged chicks in 2019-2020. While nest success exceeded the benchmark, chick survival continues to be lower than the species average and a challenge to recovery of the species in Alberta.

Alberta lek surveys revealed that male attendance reached a historical low of 13 males in 2011-2012 and 14 males were counted in 2013. Further lek surveys showed increases in male attendance to 35 males in 2015, 46 males in 2016 and finally 43 males in 2017, showing that translocated sage-grouse were likely augmenting Alberta’s population. As of September 2021, the current sage grouse population in Alberta is approximately 72 birds.

2.1 Sage grouse connectivity between Alberta and Montana

There is increased potential for sage-grouse dispersal and migration between Northern Montana and Alberta; as well as maintenance of connectivity between the sage-grouse populations. This action could provide benefit to the larger sage grouse population adjacent to the Montana border, including transboundary individuals. Several marked sage grouse hens that were translocated to Alberta nested in Montana. Although their contributions to Montana’s population were minor, it does affirm the connectivity between Montana and Alberta’s sage grouse populations.

Relevant Resource #3 - How habitat constraints in Alberta are being addressed to improve their suitability for sage-grouse habitat.

Changes Implemented in Alberta to Increase Survival and Fecundity of Translocated Sage grouse

As a result of the experience gained through past translocations, changes have been enacted

to improve habitat and survival rates for resident sage-grouse and subsequent translocated birds in Alberta. Key projects expected to have the greatest impact on sage-grouse are highlighted herein. The complete status of the sage-grouse recovery and associated action plan can be found in the *Alberta Greater Sage-grouse Recovery Plan 2013-2018* (AESRD 2013a).

3.1 Reclamation of Oil and Gas Infrastructure

Industrial development and activity in sage-grouse range has decreased since 2013 due to recent global oil prices, a 2014 federal environmental protection order and a provincial economic recession. A large oil and gas company that went into receivership has now had the majority of its assets transferred to the Orphan Well Association (OWA). Over the last two years abandonment and reclamation activities on these sites has increased dramatically. As a result, approximately 330 oil and gas sites are set to be reclaimed in sage-grouse habitat over the next 3-5 years. Highlights in 2020 include: 123 sites fully decommissioned, 242 pipelines abandoned, and 119 wells cut and capped. In 2021: 106 wells abandoned, 27 pipelines abandoned, and 99 sites with all surface equipment removed. The major operator in the area (City of Medicine Hat) plans to utilize federal grants to accelerate their abandonment and reclamation activities. This work represents the most significant opportunity in recent memory to improve sage-grouse habitat by reducing oil and gas infrastructure in Alberta.

3.2 Removal of Anthropogenic Structures

Since the last translocation in 2016, 2 more abandoned structures have been removed from core sage-grouse habitat and 18 structures that were in close-proximity to core habitat have been removed. Conversations with landowners and spatial analysis continue to identify additional structures for future removal. Prior to the removal of any structures a site assessment is conducted to determine predator usage through direct observation and/or sign (i.e. scat, tracks, pellets, whitewash, feathers and nests/dens) and camera trapping. The majority of sites assessed had evidence of predator use including nesting and roosting by great horned owls, common ravens (*Corvus corax*) and use by terrestrial predators such as raccoons, skunks, feral cats, weasels, coyotes and badgers.

3.3 Habitat Enhancement and Protection

In partnership with the Alberta Conservation Association (ACA), Alberta MultiSAR (Multiple Species at Risk), Nature Conservancy of Canada (NCC) and other partners, over 5,748 acres have been purchased or had easements placed in sage-grouse range. Alberta Environment and Parks also helped facilitate the purchase by NCC of 160 acres of deeded land adjacent to an active lek. This property is undergoing a restoration to native prairie and is also used by the Calgary Zoo as a staging area for their captive sage-grouse breeding and release program. AEP staff are assisting with the reclamation of this property, and have provided ~10 kg of locally collected silver sagebrush seed.

The Emergency Protection Order for sage-grouse under Section 80 of the federal *Species at Risk Act* (SARA) came into force on February 18, 2014. Prohibitions under the Order

include seasonal and chronic noise restrictions, prohibition on killing or moving native plants, height restrictions on new structures and standards on new fence (Environment Canada 2014). This protection order continues to benefit sage-grouse populations by providing protection to key pieces of sage-grouse habitat, including areas around remaining active leks where translocated birds were released.

In 2021, a new provincial land use protection (Protective Notation – PNT) was enacted in core sage-grouse habitat areas. Changes were also made to the Master Schedule of Standards and Conditions (MSSC). These land use protections will provide greater certainty for future development projects while recognizing the need to limit disturbance to remaining core habitat.

Relevant Resource #4 – Sage-grouse Monitoring and Research effects.

4.1 Sage-grouse Monitoring

MFWP resources and field staff have been periodically redirected from monitoring sage-grouse populations in Region 6, to complete the translocation. A minimum number of leks are still needed to monitor sage-grouse population trends (Valley County block survey) and address management plans (AHM leks) in Region 6. During the two recent years translocation have occurred (2016 and 2019), 172 and 159 leks, respectively, were surveyed in Region 6 out of a total 221 active leks. Over the past 10-years, an average of 158 leks are surveyed annually. These surveys included leks needed for population monitoring and AHM. This is accomplished through the assistance of many partnering agencies, organizations and individuals to include AEP staff. Additionally in 2022, AEP staff assisted FWP survey sage-grouse leks in Region 6 due to staff shortages in the region.

Additionally, MFWP and AEP staff have assisted in capturing sage grouse as part of a MSU graduate research project to investigate “Resource Selection, Space Use, Demography and Movements of Greater Sage-grouse in South Valley County, Montana”. The investigators with assistance of MFWP and AEP captured and fitted 86 sage grouse hens with transmitters over a four year period.

4.2 Research Outcomes from Translocation

Evaluate the potential for restoration measures to support maintenance or recovery of sub-population units prior to augmentation.

Research from the University of Regina has revealed a greater understanding of the habitat selection and nesting ecology of translocated sage-grouse in Alberta. As a result of this research several management recommendations were made including:

- o enhancement of habitat surrounding leks
- o adopting translocation strategies to decrease post-translocation movement
- o increasing nesting success through soft release techniques

A predicted intensity map was also developed that will assist in strategically guiding

habitat enhancement efforts in south-eastern Alberta (Balderson 2017).

Increase knowledge of best practices for sage-grouse translocation in silver sagebrush ecosystems.

Significant knowledge has been gained through the translocation process. Valuable experience on field capture and bird handling techniques was obtained by staff members from both AEP and MFWP. Past translocation efforts have provided valuable experience regarding timing and efficiency of captures.

Evaluate the potential for augmentation to maintain or increase the number of sage-grouse associated with treated and adjacent leks in silver sagebrush ecosystems.

Translocated sage-grouse hens showed fidelity to the release areas and subsequently nested in the vicinity of the release leks. Nest success was comparable to reported numbers for the species in North America. A total of 15 chicks were observed in 2019-2020 at 45 days, a metric that continues to be a challenge for population recovery in Alberta. Adult birds were seen to integrate into the resident population as evidenced by repeated visits to lek sites and winter flocking behavior.

Develop a refined understanding of the spatial ecology of sage-grouse in the recovery area.

In the years since the initial 2010 translocation knowledge about the ecology of sage grouse habitat in Alberta has increased significantly. The utilization of PTT data from translocated hens have provided wildlife managers with the ability to compare theoretical critical habitat mapping with real time locations. This real-world data confirmed areas of high sage-grouse use and its seasonality. Research out of the University of Regina indicates that sage-grouse avoid anthropogenic structures (especially oil wells, power lines, buildings and trees) up to a distance of 5 km. This suggests that sage-grouse are avoiding these features because of the disturbance of the features themselves and not because the features occur in poor sagebrush habitat (Balderson 2017). The research suggests that anthropogenic structures should be prioritized for removal with a focus on areas that have suitable habitat. The knowledge from this research and its management implications could not have been gained without the data used from the Montana translocated sage-grouse.