May 1, 2019

Brian Nesvik, Director
Wyoming Game and Fish Department
5400 Bishop Boulevard
Cheyenne, WY 82006
brian.nesvik@wyo.gov

RE: Support for Designation of Migration Corridors for Sublette Pronghorn and Wyoming Range Mule Deer

Dear Director Nesvik,

On behalf of The Wyoming Chapter of the Wildlife Society (WY-TWS), we express our continued support for Wyoming Game and Fish Department's (WGFD) science-based efforts to identify and manage migration movements and corridors for Wyoming's ungulates. This letter specifically focuses on current considerations to designate two new proposed corridors, critical for Sublette pronghorn and Wyoming Range mule deer. We recognize and applaud previous designated big game migration corridors relevant to Sublette mule deer, Platte Valley mule deer, and Baggs mule deer.

About The Wildlife Society

The Wildlife Society is an international organization committed to addressing issues that affect the current and future status of wildlife in North America and throughout the world. WY-TWS, overseen by a voluntary executive board, is comprised of wildlife professionals who collectively promote awareness of and continued improvement in science-based wildlife management in Wyoming. There is a tremendous amount of peer-reviewed research on big game movements, much of which was conducted and published by members of WY-TWS.

Long-Standing Engagement by WY-TWS

WY-TWS has a long history of working alongside WGFD on this issue. In the mid-1980s, WY-TWS first developed seasonal range definitions that were adopted by WGFD – followed by three additional revisions. While effective, these definitions and delineations were not universally adopted by management agencies, (i.e., Bureau of Land Management, U.S. Forest Service, U.S. Fish and Wildlife

Service, Natural Resources Conservation Service). Given a lack of consistency for species that routinely cross jurisdictions, WGFD again approached WY-TWS for assistance in 2014. With approval from the Board, our Science Committee leveraged peer-reviewed literature, expert opinion, and carefully collected field data to develop recommendations to update the definition of ungulate migration routes (letter submitted to Director Talbott 6/15/14).

Understanding Migration Corridors

In light of the continuing pressures that result in lost, degraded, and/or fragmented wildlife habitat, efforts to proactively conserve and protect important habitat areas is critical to the long-term sustainability of our big game species. Over the last decade, efforts to identify, map, and analyze ungulate migrations have intensified.

Migration is a behavioral strategy that allows ungulates to take advantage of seasonal peaks in food resources while potentially reducing the risk of other impacts such as predation[1]. As Wyoming's landscapes come increasingly compromised, migrational ability becomes even more important to ensure their seasonal nutritional needs are met. In Wyoming, studies that track the detailed movements of animals suggest that more than 90% of ungulate populations (including mule deer, elk, pronghorn, moose, bighorn sheep, mountain goat, bison, and white-tailed deer) are migratory[2].

While migrating animals can typically move through compromised/disturbed habitat to a certain degree, deer migrate faster and stop less often to forage in developed landscapes[4]. This suggests that migratory ungulates may lose the foraging benefit of migration if they move through areas of intense disturbance. Furthermore, oil and gas development was linked to a 36% decline in mule deer abundance over a 17-year study period (n=187 deer), despite aggressive onsite mitigation efforts (e.g. directional drilling and liquid gathering systems) and a 45% reduction in deer harvest[3]. Researchers' results indicate behavioral effects of energy development on mule deer are long-term and may affect population abundance by displacing animals and thereby functionally reducing the amount of available habitat[4]. In addition, individual migratory mule deer have a strong fidelity (80%) to their migratory routes, suggesting a lack of ability to adjust to changing environmental conditions in circumstances relative to these types of development[4].

---

[1] Fryxell, J. M., and A. R. E. Sinclair. 1988. Causes and consequences of migration by large herbivores. Trends in Ecology and Evolution 3:237–241. https://www.sciencedirect.com/science/article/pii/0169534788901668

[2] Sawyer, H., M. Hayes, B. Rudd, and M. J. Kauffman. 2014. The Red Desert to Hoback Mule Deer Migration Assessment. Wyoming Migration Initiative, University of Wyoming, Laramie, WY. http://www.migrationinitiative.org/content/red-desert-hoback-migration-assessment

[3] Sawyer, H., N.M. Korfanta, A.D. Middleton, R.M. Nielson, K.L. Monteith, and D. Strickland. 2017. Mule deer and energy development – long-term trends of habituation and abundance. Global Change Biology 23:4521-4529. https://doi.org/10.1111/gcb.13711

[4] Sawyer, H., J. A. Merkle, A. D. Middleton, S. P. H. Dwinnell, and K. L. Monteith. 2019. Migratory plasticity is not ubiquitous among large herbivores. Journal of Animal Ecology 88:450-460. https://doi.org/10.1111/1365-2656.12926

[5] Jesmer, B.R., J.A. Merkle, J.R. Goheen, E.O. Aikens, J.L. Beck, A.B. Courtemanch, M.A. Hurley, D.E. McWhirter, H.M. Miyasaki, K.L. Monteith, and M.J. Kauffman. 2018. Is ungulate migration culturally transmitted? Evidence of social learning from translocated animals. Science 361:1023-1025. https://science.sciencemag.org/content/361/6406/1023

Recent research in Wyoming has confirmed what wildlife biologists and managers have suspected for decades, that ungulate migration is a learned behavior passed on from generation to generation[5]. Evidence from bighorn sheep and moose populations suggests that once migration corridors are lost, it will take approximately 100 years for the population to redevelop migration[5]. Therefore, conserving existing migration corridors is imperative for the continued health of Wyoming's ungulates.

WY-TWS Recommendations

Proactively mapping, conserving, *and* protecting traditional migration corridors is critical to sustaining migratory ungulates. Thus, WY-TWS strongly supports WGFD's expeditious designation of the Sublette pronghorn corridor and the Wyoming Range mule deer corridor. The science supports the importance of corridors to ungulate populations, to seasonally migrate from low-elevation winter ranges to high-elevation summer ranges, and these two corridors are well documented (both over time and in number of individuals).

Following designation (Action 2 of the *Ungulate Migration Corridor Strategy*) of a corridor, WY-TWS encourages caution in regards to leasing of energy resources within these migratory corridors. Given the documented negative impacts of energy development, WY-TWS supports WGFD's process for recommending case -by-case deferrals to proposed oil and gas leases within migration corridors until a long-term corridor conservation is developed for federal lands (Action 4 of the *Ungulate Migration Corridor Strategy*).

Wyoming's diverse wildlife resources and quality wildlife habitat are world-renowned, often pointed to by residents as one of the reasons for living in the Cowboy state and a draw for our strong tourism economy. We appreciate that this is due in large part to Wyoming Game and Fish Department's steadfast commitment to managing for healthy wildlife populations based on the best-available science. It is with great honor that our members engage in our state's various wildlife professions. We welcome continued opportunities to work alongside the Department, to utilize our members' expertise to ensure Wyoming's continued proud wildlife legacy for generations to come.

We thank you for your consideration,

Daly Edmunds, on behalf of the
WY-TWS Board of Directors
WYTWS.Edmunds@gmail.com

cc: Beth Callaway
Policy Advisor
Office of Governor Mark Gordon
Beth.Callaway@wyo.gov