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UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF IDAHO

WESTERN WATERSHEDS PROJECT, Plaintiff, vs. TOM DYER,* Director, Idaho State Office, Bureau of Land Management; RICK VANDER VOET,* Jarbidge Field Manager, BLM; BUREAU OF LAND MANAGEMENT, an agency of the United States, Defendants.	No. CV-04-181-S-BLW **SECOND DECLARATION OF DR. CLAIT E. BRAUN**

** Substituted as official defendants per F.R.Civ.P. 25(d).*

I, Clait E. Braun, declare:

1. My name is Clait E. Braun, and I reside in Tucson, Arizona.

2. I previously prepared a declaration to the Court in this matter in March 2005, which addressed Greater Sage-grouse (hereafter sage-grouse) values and livestock impacts in the Jarbidge Resource Area at that time. *See Docket No. 72.* As I discussed in that declaration, the

decline of sage-grouse populations and loss of their crucial habitats in the Jarbidge Resource Area called for urgent remedial action, including limiting or excluding livestock grazing from key areas of value to sage-grouse.

3. In this second declaration, I am updating the Court on the implications of the recent Murphy Complex fire for sage-grouse populations in the Jarbidge area. I also address management implications for sage-grouse and their habitats in the wake of the Murphy Fire.

4. As discussed below, the Murphy Complex fire has significantly affected remaining sage-grouse and their habitats in the Jarbidge Resource Area, further harming populations and habitat that were already markedly impacted from extensive loss and degradation prior to the fire. It is accurate to say the situation is now critical for future survival of a viable sage-grouse population in the Jarbidge Resource Area.

5. Under these circumstances, the only prudent management direction for this area is to exclude domestic livestock grazing from the remaining sage-grouse habitats that have any value in fulfilling sage-grouse biological needs – including leks and especially nesting and brood rearing habitats, and also over-wintering habitats. In addition, further construction or reconstruction of fences, placement of livestock troughs, or other range infrastructure should not be authorized, to prevent further habitat fragmentation and threats to remaining sage-grouse populations.

6. In addition, BLM must now begin taking steps necessary to promote long-term survival and recovery of sage-grouse in the Jarbidge Resource Area. Among other critical steps, the agency needs to restore large and connected patches of sagebrush. Thus, livestock grazing and construction (or reconstruction) of fences and other infrastructure should not be undertaken within the burned areas and adjacent remaining suitable sage-grouse habitats.

Background and Qualifications

7. As stated in my prior declaration, I have a B.S. in Technical Agronomy from Kansas State University, a M.S. in Wildlife Management from the University of Montana, and a Ph.D. in Wildlife Biology from Colorado State University. In addition, I have attended numerous short courses, workshops, technical sessions, etc., to remain current in my professional work and am a Certified Wildlife Biologist. My vitae is attached hereto as Exhibit 1.

8. I was a Research Wildlife Scientist, Wildlife Research Leader, and Avian Program Manager for the Colorado Division of Wildlife during 1969-99. In addition, I taught as an Instructor at the University of Montana (1963-65) and Colorado State University (1966-69), and have been an invited lecturer at more than 20 U.S. and Canadian universities. I also worked as a Soil Scientist in Kansas (1961) and Montana (1964) for the U.S.D.A., Soil Conservation Service and as a Research Technician with the Montana Department of Fish and Game (1965).

9. My field research was primarily on different species of birds especially grouse (1965-2007). I specifically conducted and directed research on sage-grouse throughout Colorado from 1973 through 1999. My research on sage-grouse has caused me to review sagebrush steppe ecosystems (plants and animals) throughout all western states and provinces. This research has led to more than 290 scientific publications, mostly in peer-reviewed journals. I am lead author or co-author on more than 65 articles on sage-grouse (including Greater sage-grouse and Gunnison sage-grouse) and more than 50 technical abstracts on sage-grouse in scientific publications.

10. I currently serve as Editor of The Wilson Journal of Ornithology, and am a principal in Grouse, Inc., a consulting firm. I have been retained by *Advocates for the West* to provide my professional views in this declaration, based on my scientific expertise and

knowledge of the Jarbidge area. Among other steps to prepare this declaration, I participated in another site inspection tour of the Murphy Complex burn and adjoining areas in November 2007.

Sage-Grouse Habitat Needs and Management Implications.

11. I am closely familiar with research and scientific literature that addresses the habitat needs and biological requirements of sage-grouse, and on the factors that cause or contribute to sage-grouse population losses or declines (including from habitat loss). I have also spent innumerable hours in the field studying sage-grouse populations and habitats over the last four decades, which I have used in my own publications addressing the relationships between sage-grouse and their habitats, as well as the management implications of these relationships (including from livestock grazing management).

12. Papers that I have authored or co-authored over the last two decades on sage-grouse habitat requirements and management implications include the following: Braun, C. E., T. Britt, and R. O. Wallestad. 1977. Guidelines for maintenance of sage grouse habitats. Wildlife Society Bulletin 5:99-106; Remington, T. E. and C. E. Braun. 1985. Sage grouse food selection in winter, North Park, CO. Journal of Wildlife Management 49:1055-1061; Connelly, J. W. and C. E. Braun. 1997. Long-term changes in sage grouse *Centrocercus urophasianus* populations in western North America. Wildlife Biology 3:123-128; Connelly, J. W., M. A. Schroeder, A. R. Sands, and C. E. Braun. 2000. Guidelines for management of sage grouse populations and habitats. Wildlife Society Bulletin 28:967-985; Braun, C. E., O. O. Oedekoven, and C. L. Aldridge, 2002. Oil and gas development in western North America: effects on sagebrush steppe avifauna with particular emphasis on sage grouse. Transactions of the North American Wildlife and Natural Resources Conference 67:337-349; Connelly, J. W. and C. E. Braun. 2007. Measuring success of sage-grouse conservation plans. Grouse News 33: 4-6.

13. As research has developed and the factors that affect sage-grouse populations and habitats become increasingly well-recognized and understood, I have similarly refined my own professional views and management recommendations, as reflected in these papers.

14. In 2006, I updated my analysis of sage-grouse habitat requirements and management recommendations through a paper entitled "Blueprint for Sage-grouse Conservation and Recovery," a copy of which is attached hereto as Exhibit 2.

15. In this "Blueprint for Sage-Grouse Conservation and Recovery," I address sage-grouse biological needs and habitat requirements, and itemize the best management practices which the scientific literature supports with respect to many land management practices, including livestock grazing and construction of livestock-related infrastructure (fences, troughs, etc.)

16. As I explain in this paper, the overall goal of land managers regarding grazing should be to maintain and enhance the population viability of sage-grouse by encouraging desirable plant communities, increasing native plant diversity, and promoting residual vegetative cover.

17. In the absence of long-term scientific studies demonstrating that grazing does not harm sage-grouse habitat, extreme caution should be exercised in grazing the sagebrush steppe. Thus, where forage production in sage-grouse habitat is less than 200 pounds of herbaceous vegetation per year, livestock grazing should not be permitted at all.

18. Moreover, domestic livestock grazing that reduces herbaceous cover in the sagebrush steppe can negatively impact nest success of sage-grouse. Even "moderate use" by cattle of grasses and forbs (commonly called wild flowers) – described as the removal of 30-40% of the primary forage species – can result in rangeland deterioration in semi-arid grasslands.

Thus, if livestock grazing is permitted on public rangelands at all, use of herbaceous forage should be limited to 25-30% of annual production to improve rangeland vegetation to meet the habitat needs of sage-grouse. Care must be used in calculating stocking rates to ensure that forage use by cattle does not exceed 25-30%.

19. Furthermore, if grazing can be permitted within these guidelines, livestock turnout should not be allowed until after 20 June and all livestock should be removed by 1 August to allow for herbaceous regrowth to provide cover to benefit sage-grouse the following spring. To protect sage-grouse winter habitat, winter grazing should not be permitted until plant growth has ceased for the year, and should generally occur between 15 November and 1 March.

20. Larger pastures with fewer fences are better than smaller pastures, as fences are generally negative for sage-grouse. Fences fragment sage-grouse habitat, and potentially increase mortality of sage-grouse by increasing the number of perches for raptors, which prey on sage-grouse year-round. Fences should not be allowed within 2 km of active leks, and unnecessary fences should be removed, or, at a minimum, marked with flagging to prevent collisions.

21. Another consequence of grazing that must be addressed is the widespread and increasing invasion of cheatgrass, which displaces native understory species, and leads to increased risk of wildfires that eliminate sagebrush overstory. While certain herbicides can reduce germination of cheatgrass, the reseeding of cheatgrass-dominated areas with alfalfa and native bunchgrasses may be as effective and more economical than use of herbicides.

22. Where fires have burned sage-grouse habitat, grazing by domestic livestock should be immediately suspended and not reinstated for a minimum of 3 years. Reseeding burned areas is not recommended, but if it must be done to reduce soil erosion, alfalfa, native

bunchgrasses, and sagebrush seed – but not crested wheatgrass – should be planted.

23. Finally, land managers should refrain from promoting water developments to improve livestock distribution, as pipes and tanks – which do not make water available on the ground – negatively affect sage-grouse habitat. In contrast, stock ponds are less likely to cause harm, as they promote the growth of succulent forbs for sage-grouse. In any event, all seeps and springs, and associated mesic (moderately moist) sites, should be fenced to exclude large grazing animals.

Murphy Complex Fire Impacts on Sage-grouse And Management Implications.

24. I toured the Murphy Complex Fire and adjoining areas on 6-9 November 2007, to examine habitat conditions. I visited numerous sites within and outside the burned area, inspecting burned areas that BLM rated, variously, as low, medium or high intensity. I have also reviewed agency data and documentation about the fire and impacts on sage-grouse, as well as the Third Declaration of Amy Haak which analyzes the fire along with vegetation conditions and other factors.

25. According to the Idaho Department of Fish and Game (IDFG), ~ 75 lek areas were destroyed by the Murphy Complex Fire. This could represent an estimated 82% of the leks in the Jarbidge Resource Area that have been documented to be active (n = 91) within recent years (IDFG data; Third Amy Haak Declaration, February 2008).

26. In addition, the Murphy Complex Fire burned ~ 28% of the best remaining sagebrush-steppe habitat in the Jarbidge Resource Area. According to Ms. Haak's analysis, the fire destroyed many of the largest and best sagebrush patches then remaining on the Jarbidge Resource Area.

27. As graphically demonstrated in Ms. Haak's declaration, there remain important

concentrations of sage-grouse leks in areas that were not burned in the Murphy Complex Fire, which typically coincide with the better remaining sagebrush-steppe vegetation.

28. Even though the Murphy Complex Fire destroyed an estimated 75 lek areas, male sage-grouse that did not perish in the fire can be expected to return to their historic leks areas, seeking females for breeding. However, female sage-grouse will tend to avoid lek areas if there is not adequate nesting cover nearby (within, for example, 1-2 miles – although preferred nesting habitat can be within a quarter-mile of a lek).

29. The extensive loss of sagebrush habitat in the Murphy Complex Fire, coupled with the prior loss and degradation of native habitats across much of the Jarbidge Resource Area prior to the fire, will cause female sage-grouse to now have significant challenges in seeking adequate habitat for nesting (laying eggs and incubation) and brood rearing. The loss of leks and associated nesting and brood rearing areas through removal of sagebrush cover can thus be expected to significantly reduce breeding success in coming years, until native habitats are restored (including establishment of sagebrush of sufficient height and maturity to provide adequate nesting cover, which may take many years).

30. In addition, the Murphy Complex Fire burned in riparian areas (including wet meadows), which are critical habitats for sage-grouse brood rearing in late spring and early summer. Sage-grouse chicks rely on insects found on forbs and grasses, which are most prevalent in these riparian areas and wet meadows. These same habitats are extraordinarily susceptible to livestock damage, especially after fires as livestock congregate where water and green vegetation occurs, thus harming sage-grouse through trampling, removal of vegetation, and disturbing sage-grouse.

31. In light of the extensive loss of habitats needed by sage-grouse for successful

breeding and reproduction – both as result of prior fires, grazing impacts, plantings, weed invasions, and other factors, and as a further result of the Murphy Complex Fire – it can be readily foreseen that sage-grouse survival and reproductive success will be sharply lower in coming years on the Jarbidge Resource Area.

32. Thus, every precaution should be taken to ensure sage-grouse survival and that reproductive success improves, to the maximum extent human management actions can promote those goals.

33. Livestock grazing thus should not be authorized in the remaining sage-grouse habitats that have any value for sage-grouse biological functions – including for leks, nesting, brood-rearing, and over-wintering. Likewise, building or reconstructing fences, livestock water troughs, or other such infrastructure should be avoided.

34. In view of the reduced and fragmented suitable sagebrush habitat available to sage-grouse in the Jarbidge Resource Area as the result of the Murphy Complex Fire and preceding management activities designed to benefit livestock, such as crested wheatgrass seedings, fence construction, and development of livestock watering sites (pipelines, troughs, etc.), the priority sage-grouse habitat pastures (depicted in the February 2008 Amy Haak Declaration) based on considerations of sagebrush presence, large patch sizes, and distribution of lek complexes should be given immediate priority. The criteria chosen for identifying these sage-grouse habitat pastures are highly relevant and reflect current knowledge about sage-grouse biological needs. It is important that priority sage-grouse habitat pastures be recognized and closed to grazing on an interim basis to protect sage-grouse in the wake of the Murphy Complex Fire.

34. In my prior declaration I noted that, “based on the ongoing habitat degradation

and fragmentation caused by inappropriate livestock management, fires, fences, and other causes, **the remaining pockets of sagebrush and native grasses and vegetation are exceptionally important to maintaining viable sage-grouse habitat and populations, and must be given the highest priority for management**." That observation is even more true today. It is imperative that BLM must eliminate livestock grazing from all sage-grouse habitat, or must reduce stocking rates across the Jarbidge Resource Area to a fraction of the previous levels and strictly limit the season of use to the period between 20 June and 1 August. BLM should not be building or reconstructing fences that are only needed for livestock grazing management.

35. If BLM does not heed these management prescriptions, it is readily foreseeable that sage-grouse populations in the Jarbidge Resource Area will decline substantially from their already-low levels, and potentially result in extirpation of local self-sustaining populations. This result would contribute to the range-wide decline of the species, and contribute to eventual listing under the Endangered Species Act.

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct. Executed this 25th day of February 2008 at Tucson, Arizona.

/s/_____

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