



Western Watersheds Project

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Working to protect and restore Western Watersheds and Wildlife

U. S. Fish and Wildlife Service
Reno Fish and Wildlife Office
134 Financial Boulevard
Reno NV 89502

October 30, 2019

Via Federal eRulemaking Portal: <http://www.regulations.gov>.

Re: Second data call request to assist in status review and final listing determination for the Bi-State DPS of the greater sage-grouse, FWS-R8-ES-2018-0106

The U.S. Fish & Wildlife Service (Service) is extending the final determination of whether to list the Distinct Population Segment (DPS) of the species as threatened under the Endangered Species Act due to ongoing scientific debate about population data for the bi-state greater sage-grouse and to gather new and emerging information. A 30-day comment period has been re-opened until October 31, 2019.

Western Watersheds Project (WWP) submitted extensive comments supporting listing of this DPS as endangered, and we submit further new information and discussion here.

Western Watersheds Project is a non-profit organization with more than 9,500 members and supporters. Our mission is to protect and restore western watersheds and wildlife through education, public policy initiatives, and legal advocacy.

Population Trend Models Need Better Peer Review and Public Transparency

The Service in its announcement in the Federal Register public inspection section, explained that scientists are disagreeing on sage-grouse numbers and population levels:

We are taking this action to extend the final determination based on substantial disagreement regarding the sufficiency and accuracy of the available data relevant to the proposed listing, making it necessary to solicit additional information.... In

particular, there has been substantial disagreement regarding the application of new population models from 2018 and 2019, and how results from these models should be interpreted in regards to the status of the species.¹

Having attended meetings of the Bi-state sage-grouse Local Area Working Group (LAWG) in 2019 where U.S. Geological Survey (USGS) Integrated Population Models were discussed by Mark Ricca, we question how these population trend models were generated and interpreted. The models of rainfall-drought cycles relating to sage-grouse counts were published in Mathews et al. (2018). The data feeding into these models should be made transparent, as the models have varying interpretations. We noticed a particularly stark shift in interpretation of sage-grouse population trend models in the June 5, 2019 Bi-state sage-grouse Local Area Working Group meeting in Walker, California, where Ricca announced that this Integrated Population Model may be evidence of the effectiveness of conservation measures and conifer removal. Yet the model previously had not shown this. Almost all populations have been declining and some decoupling from rainfall patterns over the last few years (such as Long Valley). We see no such efficacy of conservation measures, but rather the opposite as we discussed in our previous letter: despite years of conifer removal, most populations of sage-grouse are in sharp and ongoing decline, and some crashing.

The Service should undertake a thorough vetting and review of these models, as we observe that actual lek counts have been declining across most populations from 2017-2019 in troubling trends that we see as a need to list this DPS. Further declines could result in local extirpations. This supports a listing of this DPS. Interpreting models in a manner that de-emphasizes these severe and chronic population declines will not suffice to prevent extinction of this DPS.

Discrepancies in Lek Count Data

In reviewing lek count data provided to WWP by the Nevada Division of Wildlife (NDOW), we noticed some discrepancies in the 2016 data between the data provided in 2016 (which included 2016 and years prior) and the data provided in 2017 (which included 2016) and some of the cells in the 2018 data that reported 2016 as the last count date for certain sites.

The Service should coordinate with Nevada and California state agencies to provide complete and accurate lek count data, in order for the public to understand the trajectories of recovery, and what data the Service is using in its listing determination. Lek counts, lek trends, and PMU counts and trends should clearly be provided for every year. Search effort and translocation accounting should also be a part of this coordinated database. For instance, the rise in Parker Meadows subpopulation counts is due to augmentation from the Bodie Hills. New leks discovered in the White Mountains, for example, should be identified in search effort accounts.

¹ <https://s3.amazonaws.com/public-inspection.federalregister.gov/2019-21385.pdf>

NDOW data give troubling examples of trends. Of 14 leks in the Bodie Hills/Mt Graham PMU, 5 had zero males in 2018, and the Desert Creek/Fales population went from 139 in 2012 to just 69 in 2018. There are only 6 males on three leks in the Pine Nut PMU, and NDOW acknowledged at the June 2019 LAWG meeting that some Pine Nut Range leks only have females in 2019 counts.

We attach the 2018 Excel spreadsheet with possible discrepancies and mistakes based on irreconcilable datasets, based on original data sourced from NDOW. The Service needs to request and analyze the NDOW datasets, and the California Department of Fish and Wildlife datasets, and reconcile them.

Without a data reconciliation of this nature, we are not assured that a negative listing determination would be based on the best available science.

Lack of Crucial Habitat Data

Mark Ricca in his June 2019 presentation admitted that USGS has not looked at the data they collected on sage-grouse use of natural ungrazed meadows versus irrigated grazed meadows. A listing determination cannot possibly be made based on such incomplete data. We provided extensive observations and photographs in our January 15, 2019 comment letter to the Service on the poor quality of wet meadows in Bi-state sage-grouse range because of extensive and pervasive livestock grazing.

USGS admits in these presentations at meetings that the most limiting habitats for sage-grouse are for nesting, early brood-rearing, and late brood-rearing. These include mesic meadow habitats and pastures that are often highly degraded by cattle grazing. This reduces cover and increases invasive plant species. The Service needs to take a hard look at how livestock grazing impacts sage-grouse crucial habitats, and acknowledge that this is a widespread problem across the range of the DPS.

Minimum Viable Population

Minimum Viable Population incorporates conservation goals of avoiding genetic bottlenecks, maintaining reproductive fitness, and preventing a taxon from crossing certain thresholds where extinction becomes highly likely. This represents an equilibrium population level where loss of quantitative genetic variation from small population sizes is matched by gains through mutation.

Minimum Viable Population (MVP) levels for vertebrates at 5,000 adults is well supported (see Traill et al. 2010), yet disagreements as to the range-wide population level and subpopulation trends based on lek counts make this a highly problematic discussion. We believe Bi-state sage-grouse total population numbers are far less than 5,000 birds now, and trending downwards. USGS presentations during the June 2019 LAWG estimated total population at approximately 3,280 birds. This would make the total population not viable, and worthy of listing.

Recent Projects Cumulatively Impacting Bi-state Sage-grouse

A gold mining exploration project by Radius Gold in the eastern Bodie Hills proposed to drill several exploratory drill holes for gold in the eastern Bodie Hills.² They understand that this is sage-grouse habitat and have proposed mitigation measures that are as yet uncertain. Radius Gold submitted pre-applications to Mono County and is moving towards the environmental review process in late 2019.

The Inyo National Forest Final Record of Decision (attached), came out in October 2019, and incorporates sagebrush management measures that we critiqued as not effective for sage-grouse recovery. Specifically:

My decision incorporates into the land management plan specific management direction for unique vegetation and habitat types on the Inyo, such as sagebrush and pinyon-juniper. In the final land management plan, we made a stronger distinction regarding our restoration strategy for sagebrush, which would employ more mechanical means to control woody encroachment instead of prescribed burning, because frequent fire regimes in sagebrush ecosystems tends to promote the spread of cheatgrass, a nonnative invasive species that greatly reduces ecological integrity of sagebrush ecosystems. (Final Record of Decision at 11)

As we detailed in our first data request comment, we have observed and photographed abundant and dense stands of cheatgrass increasing on mechanical pinyon-juniper treatments in the Bodie Hills. Mechanical treatments also disturb soils, break apart biological soil crusts, and allow cheatgrass to grow. This is especially true when treatments are not rested from livestock grazing.

The Inyo National Forest Final Record of Decision also discusses Conservation watersheds, which include sage-grouse habitat, and are designed to provide better ecological conditions of aquatic and riparian habitats for at-risk species. Yet instead of reducing or removing livestock grazing, the Forest is allowing this to continue:

My decision also ensures that the management of aquatic and riparian resources will not have negative effects on local economies. Within conservation watersheds, recreation activities, like fishing, and rangeland livestock grazing would be permitted to continue. Plan components related to these activities within riparian conservation areas will still apply within conservation watersheds, as will other forestwide and designated area direction (wilderness and rangeland livestock grazing). (Final Record of Decision at 13)

We provided many photographs of range conditions and meadows functioning at risk and not functioning, due to heavy livestock grazing, in our prior comment letter.

² <https://friendsoftheinyo.org/bodie-hills-mining-threat-is-back/>

The 2019 Inyo National Forest Plan itself contains problematic standards for Bi-state sage-grouse. For example, impacts of mechanical conifer treatments are allowed under this plan, and habitat standards are allowed to deviate from intact sage-grouse habitat, and the plan assumes that impacts can be restored or mitigated in a certain number of years. Cheargrass invasions of disturbed and grazed ground may take longer than 30 years to recover. Plus, sage-grouse populations are declining so precipitously that 10 years may be too late to allow disturbance of habitats before populations blink out.

SPEC-SG-STD 03 Within sage-grouse habitat, ensure that habitat restoration activities, vegetation treatments, or other authorized uses on the national forest, maintain or move toward vegetation desired conditions for sage-grouse. Short-term (1 to 10 year) impacts are allowed to deviate from these habitat standards, if the long-term (10 to 30 years) project objective is to achieve desired conditions. (Inyo National Forest Plan 2019 at 39)

Inyo National Forest admits that mechanical pinyon-juniper treatments can cause cheatgrass invasions, when it proposes a Potential management Approach:

Use an adaptive management strategy when conducting vegetation treatments within sage-grouse habitat. Determine treatment methods and intensities based on the results of past treatments as information from those past treatments becomes available. If the results of past treatments show that those treatments have caused an increase in nonnative annual grasses and poor sagebrush recruitment, do not use the same prescription for further treatments within sage-grouse habitat. (Inyo National Forest Plan 2019 at 41, emphasis ours)

An adaptive management approach will not help conserve Bi-state sage-grouse populations with such a haphazard management approach. A more scientific approach is urgently needed, with control plots and a much more strategic and rigorous design.

The Great Basin Fuel Breaks project across eastern California, Nevada and other states³, and the Tri-state Fuel Breaks project⁴ in Bureau of Land Management lands may impact Bi-state sage-grouse in ways that are not fully understood. This needs more analysis by USFWS. The Service should detail how fuel breaks may fragment sage-grouse habitat in the Bi-state area.

Shinneman et al. 2019 discuss this fragmentation effect which degraded sagebrush habitat.

³ <https://www.blm.gov/press-release/blm-analyzes-11000-miles-fuel-breaks-great-basin-combat-wildfires>

⁴ <https://www.federalregister.gov/documents/2019/10/11/2019-22112/notice-of-availability-for-the-tri-state-fuel-breaks-project-draft-environmental-impact-statement>

In effect, land managers in the region are preemptively fragmenting habitats with fuel breaks to reduce the loss and degradation of sagebrush habitat from wildfire. (at 280)

For instance, nesting shrub obligate songbirds may be affected by mowing (Carlisle 2017), and plant species intentionally sown into green strips are commonly of Eurasian origin, including introduced wheatgrasses (eg *Agropyron cristatum*) and forage kochia (*Bassia prostrata*), and may provide fewer resources for native wildlife, including sage- grouse (Graham 2013). Fuel breaks could also create ecological traps (ie attractive but poor quality habitat) for wildlife due to enhanced predation (discussed below) or vehicle- related mortality (Jochimsen et al. 2014). (at 282)

Green strips may also be vulnerable to invasion by non- native plants, especially if seedlings fail or there is eventual stand failure (Prevey et al. 2010; Gray and Muir 2013). Brown strips require intensive and frequent maintenance (eg plowing, herbicides) to prevent persistent re- invasion by ruderal and non- native plants. (at 283)

There is little evidence that existing fuel breaks have actually done anything to reduce fire severity or extent, but we do know that they fragment habitats (Shinneman et al. 2018).

As discussed in our previous comment letter, sage-grouse are known to use burn edges and areas with sagebrush unburned stringers inside burns. This must be better studied before wildfire is labeled as a greater threat to sage-grouse in the region. Sage grouse continue to nest in burned habitats but post-fire rates of nest survival and adult survival are lower (Foster et al. 2018).

Recent Studies on Sage-Grouse

Sinai et al. (2017) report on a number of new avian diseases have been identified for sage grouse in Nevada. Do these affect Bi-state sage-grouse populations?

Smith and Beck (2017) show that even after 11 years of sagebrush vegetation treatments consequences for sage grouse populations are neutral or negative. There is a growing body of evidence that these treatments do not benefit sage-grouse, and the Service should analyze whether pinyon-juniper treatments, which also disturb sagebrush habitats, are actually benefiting sage-grouse populations, or are harming them.

Conservation Triage

Instead of managing the Bi-state sage-grouse to extinction, which appears to us the be occurring currently, the Service should list this DPS and work towards raising population levels above MVP levels by proactively mandating conservation measures to

improve habitat conditions and reducing unaddressed threats. Instead of scape-goating native conifers and wild horses, the Service should look at major stressors such as cattle and sheep grazing, associated infrastructure such as fences, human-subsidized raven predation, and other threats we detailed in our prior comment that are majorly contributing to habitat degradation and mortality of sage-grouse.

Please keep Western Watersheds Project informed of all further stages in this status review by contacting me at lcunningham@westernwatersheds.org.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Laura Cunningham', is displayed on a light blue background.

Laura Cunningham
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References, attached:

Foster, L. J., K. M. Dugger, C. A. Hagen, D. A. Budeau. 2018. Greater Sage-Grouse Vital Rates After Wildfire. The Journal of Wildlife Management, September 2018; DOI: 10.1002/jwmg.21573

Mathews, S.R., Coates, P.S., Prochazka, B.G., Ricca, M.A., Meyerpeter, M.B., Espinosa, S.P., Lisius, S., Gardner, S.C., and Delehanty, D.J., 2018, An integrated population model for greater sage-grouse (*Centrocercus urophasianus*) in the Bi-State Distinct Population Segment, California and Nevada, 2003–17: U.S. Geological Survey Open-File Report 2018-1177, 89 p., <https://doi.org/10.3133/ofr20181177>.

NDOW (Nevada Division of Wildlife). 2018. Lek count dataset, attached in Excel spreadsheet form.

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Sinai, N. L., P. S. Coates, K. M. Andrie, C. Jefferis, C. G. Senties–Cué, and M. E. Pitesky. 2017. A Serosurvey of Greater Sage-Grouse (*Centrocercus urophasianus*) in Nevada, USA. *Journal of Wildlife Diseases*, 53(1):136-139.

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