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To: Oregon District Managers (Burns, Lakeview, Prineville, Vale)

From: Deputy State Director, Oregon/Washington

Subject: Status of 2020 Oregon Greater Sage-Grouse Adaptive Management Triggers

Purpose

This information bulletin (IB) transmits the results of the Oregon Greater Sage-grouse (sage-grouse) adaptive management thresholds (triggers) evaluation for calendar year 2020. This IB summarizes where triggers have been exceeded, which ones were activated or reversed, the required responses where a hard trigger was activated, and a summary of the causal factor analysis process and outcomes.

Background

The Adaptive Management Strategy in Appendix J of the 2015 Bureau of Land Management (BLM) Oregon Greater Sage-Grouse Approved Resource Management Plan (ARMPA) identifies hard and soft thresholds (triggers) for habitat and populations within Oregon Priority Areas for Conservation (PAC). Oregon's 20 PACs encompass BLM's priority habitat management areas (PHMA) and correspond to Oregon Department of Fish and Wildlife (ODFW) Core Area Habitat. These areas have the highest conservation value to maintaining sustainable sage-grouse populations in Oregon. Exceeding (tripping) a hard threshold triggers immediate and more restrictive plan-level action to address sage-grouse conservation objectives. Soft triggers indicate that management changes may be needed at the project implementation level to reduce the likelihood of tripping a hard trigger.

The Adaptive Management Strategy outlines the process the Oregon/Washington (OR/WA) BLM uses in cooperation with the ODFW and the U.S. Fish and Wildlife Service (FWS) to determine the annual status of sage-grouse adaptive management triggers. The BLM met with ODFW and FWS to review the 2020 population trigger calculations on January 14, 2021 and finalized the results on February 18, 2021. The BLM OR/WA State Office notified Vale, Burns,

Lakeview, and Prineville Districts on February 22, 2021 that four Oregon PACs had tripped a soft trigger and five had tripped a hard trigger in 2020 (see map attached). With this IB, the required hard trigger responses listed on page J-8 of the ARMPA are in effect until a plan amendment makes a change or the BLM's annual review of the relevant conditions listed in the Adaptive Management Strategy indicate the trigger has been reversed.

2020 Habitat Trigger

Habitat triggers are calculated from the proportion of all capable habitat acres within a PAC that are in existing (current) habitat. Capable habitat includes areas that either currently support vegetation cover appropriate for sage-grouse use (i.e., ≥5 percent cover of sagebrush species and <5 percent tree cover) or are predicted to support these vegetation conditions with treatments and/or natural plant succession. The BLM used two datasets from the Integrated Landscape Assessment Project developed by the Institute for Natural Resources to identify capable habitat and current habitat. Oregon PACs are mostly (89 to 99 percent) capable habitat. Current habitat that has burned with high or moderate soil burn severity, based on Burned Area Reflectance Classification (BARC) maps, is considered habitat loss.

Current habitat was below the soft trigger threshold (i.e., <65 percent current habitat) in the Cow Lakes and Trout Creek PACs in 2020 (see table below). Both PACs were below the habitat threshold prior to the 2015 ARMPA. The historic Vale Seeding Project and multiple wildfires removed sagebrush from large sections of the Cow Lakes PAC. Seventy-two percent of the Trout Creeks PAC has burned at least once since 1975, with many acres burned multiple times. In 2012, the perimeters of the Holloway and Long Draw fires together encompassed 271,884 acres (69 percent) of the PAC.

Four Oregon PACs with 65 to 70 percent current habitat are identified in the table below. While these PACs have not tripped a habitat trigger, they are at risk of doing so with one large wildfire. In 2020, fires burned approximately 52,157 acres within seven PACs (Baker, Brothers-N. Wagontire, Cow Valley, Drewsey, Folly Farm-Saddle Butte, Steens, and Trout Creeks). The largest fire was the 48,128-acre Indian Creek fire in the Bully Creek PAC. While 17 percent of the PAC burned in this fire, 4,097 acres within the fire perimeter burned current sage-grouse habitat with high or moderate fire severity, resulting in a 1.5 percent reduction of habitat. The Neals Hill fire in the Folly Farm-Saddle Butte PAC burned 320 acres of current habitat. Fires in the Trout Creeks PAC and Steens PAC burned approximately 637 acres; however, only 12 acres of current sage-grouse habitat burned with high or moderate fire severity.

Since 2012, the BLM has implemented vegetation treatments on approximately 236,673 acres of BLM-administered lands within the six PACs identified in the table below. Additional treatments have occurred on private lands. Treatments have included juniper removal, seeding, sagebrush planting, and chemical spraying. In 2020, the BLM completed treatments on approximately 32,315 acres within the Bully Creek and Steens PACs. The treatment acres reported below are project area footprints that may have received multiple treatments to achieve the overall treatment objective. Treatment footprints in potential sage-grouse habitat can be added to the current habitat acres once the BLM field office has verified the treated area currently supports ≥5 percent cover of sagebrush species and <5 percent tree cover. For example, juniper removal

within the Steens PAC has restored over 2,718 acres of sagebrush habitat, thereby preventing current habitat from falling below the soft habitat threshold.

PAC Name	Total PAC Acres	Capable Habitat Acres	Acres of Habitat Loss 2013-2020[1]	Current Habitat Acres	Treatment Acres[2] 2012-2020	Percent Current Habitat	2020 Trigger Status
Bully Creek	279,855	264,572	14,587	178,808	77,889	67.6	None
Burns	35,769	32,364	0	22,125	1,986	68.4	none
Cow Lakes	249,733	240,158	430	148,663	17,720	61.9	soft
Folly Farm-Saddle Butte	251,558	232,381	1,109	158,134	24,809	68.0	none
Steens	185,730	166,065	387	107,987	45,030	65.0	none
Trout Creeks	393,473	378,221	9	222,220	69,240	58.8	soft

[1]Habitat burned with moderate or high severity fire.
[2]Acres are project footprints that in most cases include multiple treatments.

2020 Population Trigger

Sage-grouse population trends in 2020 were more variable at the PAC-scale than has been observed in recent years. Increases were detected in 9 PACs and decreases were recorded in 7 PACs. The Brothers-North Wagontire PAC experienced a substantial (62 percent) increase, whereas the Soldier Creek PAC tripped a soft population trigger for the first time due to >40 percent decline in a single year. Three PACs (Steens, Pueblos-South Steens, and Drewsey) that had tripped a population trigger in 2019 for the first time recorded an increase in 2020, thereby reversing the soft trigger. The Crowley PAC population estimate grew 17 percent in 2020 and reversed the soft trigger; however, the trigger reversal may be due more to the high proportion of estimates in the trigger threshold calculation than to a real increase in the population.

The BLM established population trigger thresholds for Oregon PACs in 2015 based on a combination of actual and estimated counts of males at complexes of closely allied leks. At the time, ODFW was using the same base data as the BLM to generate population estimates at state-wide and BLM District scales but not at the PAC scale. The BLM followed the state's methodology as closely as possible to generate PAC level population estimates. In 2020, ODFW generated mean annual population estimates for 16 PACs with sufficient data to analyze trends (see table below). The difference in the BLM and ODFW estimates are statistically insignificant ($P > 0.05$) for 14 PACs and significantly different ($P = 0.002$) for the Bully Creek PAC and Crowley PAC populations. In accordance with direction contained in the Oregon BLM Adaptive Management Strategy to update the population trigger thresholds five years after issuing the ARMPA, the BLM used the ODFW mean annual estimates to reset the thresholds in 2020. The soft population threshold remains the lower 95 percent confidence interval of the mean annual population estimate, while the hard population threshold is one standard deviation below the mean annual population estimate. Replacing the BLM population estimates with ODFW estimates and updating the trigger thresholds will increase the accuracy, consistency, and efficiency of both agencies' adaptive management processes.

PAC Name	Soft Threshold (males)	Hard Threshold (males)	2020 Estimate (males)	2019-2020 Percent Change	5-year Average (males)	2020 Trigger Status
Baker	244	148	123	+7.1	107	hard
Beatys	887	464	616	+34.9	874	soft
Brothers/N. Wagontire	146	124	157	+60.8	113	hard
Bully Creek	178	129	234	-1.9	285	none
Cow Lakes	286	180	126	-22.3	197	soft
Crowley	184	120	268	+16.8	269	none
Drewsey	171	142	135	+0.5	218	none
Dry Valley/Jack Mountain	226	145	71	+44.9	70	hard
Folly Farm-Saddle Butte	57	24	77	-32.7	125	none
Paulina/12-Mile/Misery Flat	374	324	336	-1.4	398	none
Picture Rock	23	17	2	-50.0	6	hard
Pueblos/S. Steens	99	18	154	+30.6	197	none
Soldier Creek	222	140	136	-51.6	339	soft
Steens	114	76	112	+13.3	154	none
Tucker Hill	44	36	45	-11.8	56	none
Warners	496	375	327	+6.0	407	soft

Population trends for PACs that tripped a population trigger in 2020 are described below. Oregon PACs are located within "mid-scale areas" (shown in parentheses for each PAC) that were identified and mapped by the BLM and ODFW for use in the sage-grouse Habitat Assessment Framework and for allocating annual BLM funding to habitat conservation and restoration projects in high priority areas of the state.

Baker PAC (Baker) population has declined 78 percent since 2005 and first tripped the hard population trigger in 2016. The number of males counted at the same leks in 2019 and 2020 increased 13 percent. While the population estimate also increased in 2020, the increase was likely due to the analysis methodology rather than to actual population growth. The Krebs random stratified estimator that ODFW uses to generate population estimates does not perform well in small population units such as the Baker PAC. It is more likely the population has been stable since 2016.

Beatys PAC (Warner-Meinzer) has weathered two population cycles since 2003 and it appears to have reached the bottom of a third cycle. In 2020, the PAC estimate fell below the soft threshold for the first time. While the population estimate increased slightly in 2020, this increase was not enough to offset the previous 3 years of decline, including 22 percent and 50 percent decline in 2018 and 2019, respectively.

Brothers-North Wagontire PAC (Central Oregon) tripped the soft population trigger in 2016 and the hard population trigger in 2018. Following a 16 percent decline in 2019, this population increased 61 percent in 2020. Three potential new lek locations were discovered in 2020 during aerial surveys conducted between Brothers and Christmas Valley that includes portions of the Brothers-North Wagontire PAC.

Cow Lakes PAC (Owyhee River) has been in decline since the 2015 Soda Fire burned leks and important seasonal habitat in Oregon and Idaho. The PAC declined approximately 19 percent and 22 percent in 2019 and 2020, respectively. Because the PAC tripped the soft trigger both for habitat and for population during 2016-2020, the PAC tripped a hard trigger. The sage-grouse population in Idaho, which is connected to the Cow Lakes PAC in Oregon, has also declined significantly since 2015 and tripped Idaho BLM's hard population trigger.

Dry Valley-Jack Mountain PAC (Warner-Meinzer) has declined approximately 88 percent since the Miller Homestead Fire burned over one-third of the sagebrush habitat and 4 lek complexes in 2012. The population declined below the soft trigger threshold in 2016 and tripped the hard trigger in 2017. ODFW recorded the first population increase (45 percent) in 4 years in 2020. This increase was driven by 3 lek complexes located outside the boundary of the Miller Homestead Fire.

Picture Rock (Warner-Meinzer) has declined approximately 95 percent since 2003 and tripped the hard population trigger every year since 2017. All 7 known leks within the PAC have been counted every year since 2017. In recent times, more sage-grouse have been found in surveys outside of the PAC boundary than inside.

Soldier Creek PAC (Owyhee River) tripped the soft population trigger for the first time in 2020 due to >40 percent decline in a single year. While declines were recorded in five other PACs in 2020, the sharpest decline (52 percent) was observed in the Soldier Creek PAC. This population is 117 male birds above the soft population threshold despite a declining trend.

Warners PAC (Warner-Meinzer) has decreased approximately 46 percent since 2016. Despite small increases in 2018 and 2020, the 5-year average population estimate has remained below the soft trigger threshold of 496 males. Five potential new lek locations were discovered in 2020 in habitat to the north and east of the Warner Mountains that included a portion of the Warners PAC and surrounding habitat outside the PAC.

Hard Trigger Responses

Responses to triggers that involve management changes or more restrictive plan level actions to address declines in habitat or population are outlined in the Adaptive Management Strategy in Appendix J of the ARMPA. All required hard trigger responses remain in place until the habitat or population trigger, whichever was tripped, rises above the trigger threshold. Exceptions to the hard trigger response can be allowed when the cause for a hard trigger is wildfire or insect outbreak, the disturbance cap has not been reached, and the BLM authorized project would have no direct or indirect impact on the sage-grouse population or habitat.

Causal Factor Analysis and Annual Review

When an adaptive management trigger is tripped, the BLM conducts an analysis of existing conditions and trends in the affected PAC to identify and address the apparent cause(s) for decline. Attachment 2 provides a brief overview of the Causal Factor Analysis (CFA) procedures and results. Causal factor reports have been completed for all Oregon PACs that tripped a trigger in 2020 except for the Solider Creek PAC which will be analyzed in 2021. CFA reports were not prepared for 3 PACs that tripped a soft annual population trigger for the first time in 2019 (Steens, Pueblos-South Steens, and Drewsey), since the triggers were reversed in 2020.

The Beatys PAC report prepared in 2019 should be revised. The report identified low male lek attendance and poor survey conditions due to rainy weather during the early breeding season as the cause for the >40 percent population decline observed in 2019. While weather likely played a role in suppressing the number of birds observed on leks, the lack of a large increase in lek attendance in 2020 suggests there was a true decline in population trend. A relatively small increase in the estimate in 2020 was not enough to offset the previous 3 years of decline and

prevent the 5-year population estimate from falling below the soft threshold. The revised CFA should examine lek survey results to identify whether the observed trend is part of a cyclical pattern or is due to other factors that appear to be working to prevent the population from reversing the soft population trigger.

Each year, BLM field offices must review their CFA reports and update them with any new information on population trend, fire occurrence, habitat data, vegetation treatments, and management activities and authorizations on all lands within the PAC since the CFA or last annual review was completed. This information is recorded on the BLM Causal Factor Analysis Annual Review Form available through the OR-WA Greater Sage-Grouse SharePoint. If the BLM determines through its review that causal factor determinations made in the CFA updated with the new information in the annual report remain valid, and the previously identified threats have not substantially changed, then the CFA does not need to be revised. Annual reviews are due to the Oregon SO by the end of the calendar year.

Administrative or Mission Related: Mission

Districts with unions are reminded to notify their unions of this information bulletin and satisfy any bargaining obligations before implementation. Your servicing Human Resources Office of Labor Relations Specialist can provide you with assistance in this matter.

Signed by

Anthony Selle
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Attachment (s)
1. Map of PACs that tripped triggers in 2020 (1 p)
2. Causal Factor Analysis Process and Results (1 p)

Distribution

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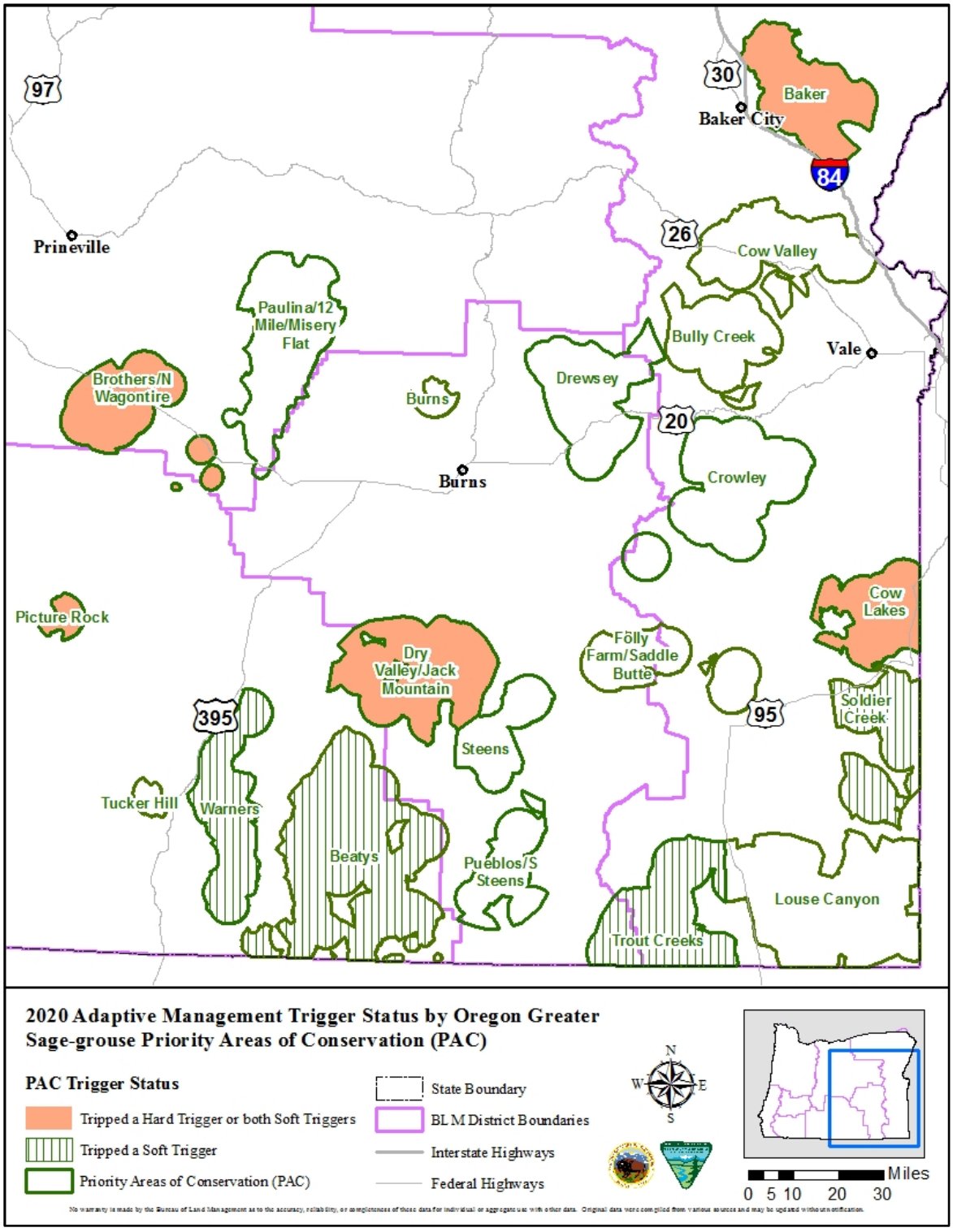
Attachment 1

Map of Priority Areas for Conservation in Oregon



Attachment 2

Causal Factor Analysis Process and Results

Interdisciplinary teams with the Oregon Department of Fish and Wildlife (ODFW) and U.S. Fish and Wildlife Service (FWS) representation conducted the analyses. The ODFW re-convened Local Implementation Teams composed of ODFW, Soil and Water Conservation District(s), local government, and private landowners. The BLM invited tribal governments to participate in hard trigger analyses and in most soft trigger analyses. Additional outreach occurred to livestock permittees. Public meetings were held for the Baker and Brothers-Wagontire PACs.

Common and wide-spread causes identified below include fire, invasive annual grasses, degraded native understory vegetation, and fence collision risk. Factors with a possibly significant role are human infrastructure (mostly roads and power lines), improper livestock grazing (based on the last Land Health Evaluation), and re-occurring drought. While the amount of infrastructure within a PAC may not have changed appreciably in the years leading up to the decline, predator populations may have expanded due to subsidies associated with power lines and roads. The degree to which the West Nile virus has caused a population to decline or prevent an increase during favorable environmental conditions is unclear. Finally, the Baker PAC is physically isolated from other priority habitat in Oregon and Idaho. The extent of genetic isolation is unknown, but telemetry studies suggest very little movement in or out of this PAC.

Possible Causes or Factors	Baker	Crowley	Cow Lakes	Trout Creeks	Dry Valley-Jack Mtn (draft)	Warners (draft)	Picture Rock	Brothers- N. Wagontire
Isolated/small size	X						X	
Agriculture Conversion	X							
Conifer encroachment						X	X	
Energy Development								
Infrastructure	Unclear	Unclear	Localized					Unclear
Wild horses		X						
Urbanization								
Sagebrush Elimination			X					
Fire	Localized	X	X	X	X			
Invasive plants	X	X	X	X	X			
Mining								Localized
Livestock grazing	Unclear		Unclear	Unclear				Unclear
Recreation	Localized							Unclear
Predator populations	X	X	Unclear			Localized		Unclear
Native understory condition	X	Unclear	X	X				
Drought	X	X			X	X	X	
West Nile Virus	Unclear	Unclear	Localized					Unclear
Habitat fragmentation	X	X	X					
Fence collisions	X	X	Localized			X	X	
Hunting								X
Crested wheatgrass seedings	X		X					Unclear
Sage-grouse translocations						X		
Research						X		