



United States Department of the Interior



BUREAU OF LAND MANAGEMENT

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

From: Deputy State Director, Oregon/Washington

Subject: Status of 2022 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 and triggers evaluation for calendar year 2022. This IB summarizes the thresholds and where they were exceeded, which adaptive management triggers 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 Oregon Department of Fish and Wildlife (ODFW) organized its sage-grouse Core Areas into 20 rational groups called Oregon Priority Areas for Conservation (PAC). Oregon PACs encompass all Bureau of Land Management (BLM) Priority Habitat Management Areas (PHMA) and contain the most productive habitat for approximately 90 percent of the state's breeding populations of sage-grouse within 38 percent of the species' current range statewide. These areas have the highest conservation value to maintaining sustainable sage-grouse populations in Oregon. The Adaptive Management Strategy in Appendix J of the BLM's Oregon Greater Sage-Grouse Approved Resource Management Plan (ARMPA) identifies hard and soft thresholds (triggers) for habitat and populations within PACs. Exceeding (tripping) a hard threshold triggers BLM to implement immediate and more restrictive plan-level actions to address sage-grouse conservation objectives. Soft triggers indicate that BLM may need to implement management changes at the project level to reduce the likelihood of further declines leading to a hard trigger.

The Adaptive Management Strategy, revised in 2020, outlines the process the BLM Oregon/Washington (OR/WA) used 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. Hard triggers were tripped in 2021 and 2022 in the same six PACs displayed in the attached map. The BLM transmitted the 2022 trigger calculations to ODFW and FWS on December 29, 2022, and both agencies concurred with the results on February 15, 2023. With this IB, the required hard trigger responses listed on page J-8 of the ARMPA remain in effect in the six PACs that have tripped hard triggers. These responses will remain in effect until either a plan amendment makes a change to the ARMPA or the BLM's annual review of the relevant conditions listed in the Adaptive Management Strategy indicate the trigger has reversed.

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 moderate to high soil burn severity classes, based on Burned Area Reflectance Classification (BARC) maps, is considered habitat loss. Unburned to low fire severity classes represent islands of sagebrush within the fire perimeter that are not considered habitat loss.

Habitat levels in 2022 were below the soft trigger threshold (i.e., < 65 percent current habitat) in the Cow Lakes PAC and Trout Creeks PAC (Table 1). 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. Five additional PACs with 65 to 70 percent current habitat also are identified in Table 1. While these PACs have not tripped a habitat trigger, they are at risk of doing so with one large wildfire event.

Fires burned approximately 3,608 acres within the Baker, Cow Valley, and Soldier Creek PACs during 2022. The largest was the Amelia Road Fire in the Cow Valley PAC that burned 3,237 acres of habitat. Field-verified BARC maps indicate 79 acres of current sage-grouse habitat within the burn perimeter were lost in areas with moderate to high fire severity.

The BLM implemented vegetation treatments in 2022 on 98,467 acres of BLM-administered lands within the seven PACs identified in Table 1. These acres are project treatment footprints that in most cases include multiple treatments on the same site (e.g., cut, pile, and burn juniper). Additional treatments have occurred on private lands. Treatments have included juniper removal, seeding, sagebrush planting, and herbicide spraying of invasive annual grasses. In 2022, most treatments were either herbicide spraying (77,202 acres) or revegetation (15,960 acres). Treatments in PACs that tripped a soft habitat trigger included 319 acres of herbicide spraying in the Trout Creeks PAC. Treatment acres can be added to current habitat acres only after a 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 restored over

45,000 acres of sagebrush habitat, thereby preventing current habitat from falling below the soft habitat trigger threshold.

Table 1. Oregon PACs that have tripped (<65 percent current habitat) or are close to tripping (65 to 70 percent current habitat) a habitat trigger in 2022.

PAC Name	Total PAC Acres	Capable Habitat Acres	Acres of Habitat Loss ¹ 2013-2022	Current Habitat Acres	Treatment Acres ² 2012-2022	Percent Current Habitat	2022 Trigger Status
Bully Creek	279,855	264,572	14,587	178,808	113,128	67.6	none
Burns	35,769	32,364	0	22,125	2,462	68.4	none
Cow Lakes	249,733	240,158	430	148,663	17,720	61.9	soft ³
Folly Farm-Saddle Butte	251,558	232,381	1,109	158,134	29,965	68.0	none
Steens	185,730	166,065	387	107,987	46,736	65.0	none
Trout Creeks	393,473	378,221	9	222,220	69,587	58.8	soft
Tucker Hill	31,531	30,401	6,259	20,955	12,235	68.9	none ⁴

¹Habitat burned with moderate or high severity fire.

²Acres are project footprints. Records are from VMAP and OR/WA Treatments, while previous years were only from the latter source.

³Cow Lakes PAC also tripped a hard population trigger

⁴Hard trigger in 2021 due to >5% habitat lost in one year (Cougar Fire). Trigger reversed in 2022 since no additional habitat was lost.

Population Trigger

The BLM sage-grouse population triggers are based on population estimates generated from maximum counts of males at each lek complex (closely allied leks within 1 mile of each other) using a stratified random estimator. Annually, ODFW provides lek count data and works with BLM to estimate the number of males in the 16 PACs containing an adequate number of leks to provide a reliable population estimate (Table 2). The BLM established PAC population thresholds in the 2015 ARMPA based on year-to-year variation of the mean population estimate for the previous 16 to 20 years. In 2020, ODFW re-calculated population trends for the same years and BLM reset the population trigger thresholds in accordance with direction contained in the Oregon BLM Adaptive Management Strategy to update the thresholds five years after issuing the ARMPA.

Sage-grouse population estimates based on counts of males attending leks contain multiple assumptions regarding lek formation and extinction rates. Lek counts are an index of population size, and the actual number of sage-grouse in each PAC remains unknown. However, the BLM and ODFW have confidence in the accuracy of the population estimates due to the high proportion of known leks surveyed each year (65.1 percent in 2022) and consistency in monitoring methods applied over the previous 24+ years.

During 2022, the Oregon sage-grouse population increased a third consecutive year following 3 years of population decline (2017–2019). Despite these increases, Oregon’s statewide population estimate is currently 40.3 percent below the 2003 statewide baseline population estimate of 29,327 individuals. The slight population increase in 2020 and moderate increases in 2021 and 2022 suggests that 2019 was the nadir in the most recent population cycle.

Table 2. Status of population triggers in Oregon PACs in 2022.

PAC Name	2022 Estimate (males)	2021-2022 Percent Change	5-year Average (males)	Soft Threshold (males)	Hard Threshold (males)	2022 Trigger Status
Baker	114	-1.7	112	245	150	hard
Beatys	547	-19.9	644	887	464	soft
Brothers/N. Wagontire	112	-0.9	119	146	124	hard
Bully Creek	377	+52.5	279	178	129	none
Cow Lakes	152	-2.6	159	286	180	hard
Crowley	317	+34.4	272	184	120	none
Drewsey	189	+3.4	183	171	142	none
Dry Valley/Jack Mountain	94	+30.6	71	226	145	hard
Folly Farm/Saddle Butte	82	-30.5	108	57	24	none
Paulina/12-Mile/Misery Flat	322	+8.8	344	374	324	soft
Picture Rock	9	+125	5	22	17	hard
Pueblos/S. Steens	81	-36.2	125	99	18	none
Soldier Creek	291	+6.2	262	235	159	none
Steens	145	+23.9	127	114	76	none
Tucker Hill	45	-8.2	47	44	36	none
Warners	365	+24.9	339	496	375	hard

The eight PACs that tripped population triggers in 2022 (Table 2) tripped the same population triggers in 2021. Population trends recorded in these PACs 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 funding to habitat conservation and restoration projects in high priority areas of the state.

Baker PAC (Baker) population increased slightly in 2022. Male attendance at complexes has declined 82.3 percent since the last population peak in 2003. The ODFW believes the population has stabilized since 2016. This small population is particularly vulnerable due to its geographic isolation from all other sage-grouse populations.

Beatys PAC (Warner-Meinzer) population first tripped a soft population trigger in 2019 when male lek attendance declined 50 percent from the previous year. Population growth in 2020 and 2021 was not enough to prevent the 5-year moving average population from sinking below the soft trigger threshold. The population declined 19.9 percent in 2022, continuing the long-term trend that began in 2016. ODFW plans to conduct aerial lek surveys in this PAC in 2023.

Brothers-North Wagontire PAC (Central Oregon) population first tripped the soft population trigger in 2016 and tripped the hard population trigger in 2018. Following a 60.8 percent increase in 2020, the population declined 27.8 percent in 2021 and was almost flat in 2022.

Cow Lakes PAC (Owyhee River) population has been in decline since the 2015 Soda Fire burned leks and important seasonal habitat in Oregon and Idaho. This population was below the soft trigger threshold in 2015 and despite a moderate increase in 2021, the population dropped

below the hard trigger threshold. This downward trend continued into 2022 with a 2.6 percent annual decline.

Dry Valley-Jack Mountain PAC (Warner-Meinzer) population estimate has declined 83.8 percent since the Miller Homestead Fire burned over one-third of the sagebrush habitat and four lek complexes in 2012. The population declined below the soft trigger threshold in 2016, tripped the hard trigger in 2017, and reached a population nadir of 49 males in 2019 relative to the peak in 2012 of 582 males. This population increased 44.9, 1.4, and 30.6 percent in 2020, 2021, and 2022, respectively.

Paulina-12 Mile-Misery Flat PAC (Central Oregon) population, often referred to simply as the Paulina PAC, first tripped the soft population trigger in 2016. In 2017, the 5-year average population estimate increased above the soft trigger threshold despite the annual estimate dropping 6.9 percent. In 2022, the annual estimate increased 8.8 percent, the first increase since 2016: however, the 5-year moving average continued to decline below the soft population threshold. Population growth needs to continue in 2023 for this PAC to avoid tripping a hard population trigger.

Picture Rock (Warner-Meinzer) population has declined approximately 25 percent since 2015 and has tripped the hard population trigger every year since 2017. While the 2022 population estimate increased 125 percent above the 2021 estimate, only 9 males were counted PAC-wide. Surveys for new leks have found more birds outside than inside this PAC.

Warners PAC (Warner-Meinzer) population estimate has decreased 14.5 percent since 2015. The population peaked in 2016, followed by three years of substantial annual declines (>10 percent per year) and two years of minor annual increases. The population tripped the hard trigger in 2021. In 2022, the male population estimate increased 24.9 percent above the 2021 estimate. While this increase is the largest since 2016, the population estimate remains firmly below the hard trigger threshold.

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 2022, except the Paulina PAC report will be completed during winter of 2023.

BLM field offices review their CFA report(s) annually to update them with current information on population trend, fire occurrence, habitat changes, vegetation treatments, and any other relevant information, management activities, and BLM authorizations implemented within the PAC. This information should be recorded on the CFA Annual Review Form, signed by the District Manager or Field Manager, and uploaded to the ORWA GRSG SharePoint in the Adaptive Management folder ([link](#)). If a BLM district determines the threats it analyzed in the CFA have not substantially changed, regardless of change in trigger status, then the CFA does not need to be revised. Annual reviews are due by the end of each 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 or Labor Relations Specialist can provide you with assistance in this matter.

Signed by

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WENTWORTH** Digitally signed by KATHERINE
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Attachments

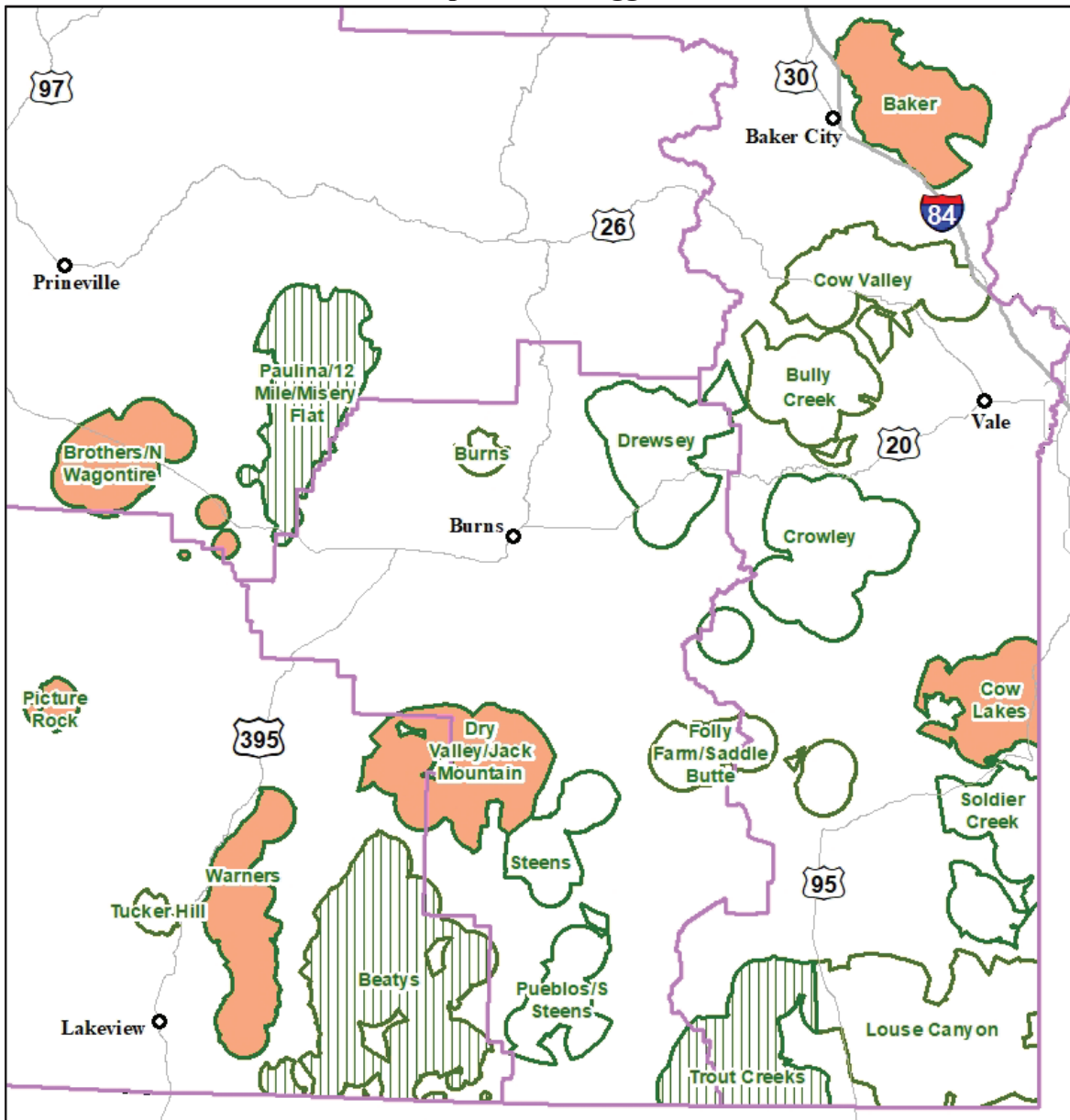
1. Map of PACs that tripped triggers in 2022 (1 p)
2. Causal Factor Analysis Process and Results (2 pp)

Distribution

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Attachment 1

Map of 2022 Triggers



2022 Adaptive Management Triggers Status by Oregon Greater Sage-grouse Priority Areas of Conservation (PAC)

PAC Trigger Status

Tripped a Hard Trigger

Tripped a Soft Trigger

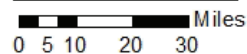
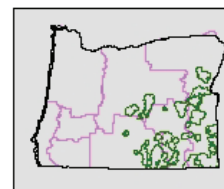
Priority Areas of Conservation (PAC)

State Boundary

BLM District Boundaries

Interstate Highways

Federal Highways



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources and may be updated without notification.

Attachment 2

Causal Factor Analysis Process and Results

Interdisciplinary teams with Oregon Department of Fish and Wildlife (ODFW) and U.S. Fish and Wildlife Service (FWS) representation conducted the analyses. ODFW re-convened Local Implementation Teams composed of ODFW, Soil and Water Conservation District(s), local government, and private landowners. 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 last Land Health Evaluations) 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 West Nile virus has caused a population to decline or prevent an increase during favorable environmental conditions is unclear.

Possible Causes or Factors	Baker	Beatys	Cow Lakes	Trout Creeks	Dry Valley-Jack Mtn	Warners	Picture Rock	Brothers- N. Wagontire
Isolated/small size	X						X	X
Agriculture Conversion	X							
Juniper encroachment		X			X	X	X	X
Energy Development								X
Infrastructure	X		Local			X		X
Free-roaming equids		X			X			
Sagebrush Removal (historic)			Local					
Fire	Local	X	X	X	X	X	X	X
Weeds/annual grasses	X	X	X	X	X	X	X	X
Mining								Local
Livestock grazing	Unclear		Unclear	Unclear	Unclear	Unclear		Unclear
Riparian Condition		X						
Recreation	Local					X	X	Unclear
Predator populations	X	X	Unclear			Localized		X

Possible Causes or Factors	Baker	Beatys	Cow Lakes	Trout Creeks	Dry Valley-Jack Mtn	Warners	Picture Rock	Brothers- N. Wagontire
Native understory condition	X		X	X				
Drought	X	X			X	X	X	X
West Nile Virus	Unclear	Unclear	Local					Unclear
Habitat fragmentation	X		X					
Fence/wire collisions	X	X	Local			X	X	
Hunting disturbance								X
Crested wheatgrass seedings	X		X			X	X	
Sage-grouse translocations						X		
Research activities						X		
Weather impacting lek attendance		X						