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To: Oregon District Managers - Burns, Lakeview, Prineville, and Vale

From: Deputy State Director, Oregon/Washington

Subject: Status of 2016 Oregon Greater Sage-Grouse Adaptive Management Triggers

Purpose

This information bulletin (IB) transmits results from evaluation of the Oregon Greater Sage-grouse (sage-grouse) adaptive management thresholds (triggers) for calendar year 2016; the results include where triggers have been exceeded, which triggers have been exceeded, the required responses if a hard trigger has been exceeded, and a brief summary of the causal factor analysis process.

Background

The Adaptive Management Strategy outlined in Appendix J of the Oregon Greater Sage-Grouse Approved Resource Management Plan (ARMPA) identifies hard and soft triggers for habitat and populations within Oregon Priority Areas for Conservation (PAC). Soft triggers represent an intermediate threshold indicating that management changes are needed at the implementation level to reduce the likelihood of tripping a hard trigger. Hard triggers represent a threshold indicating that immediate and more restrictive plan-level action is necessary to stop a severe deviation from sage-grouse conservation objectives.

The Adaptive Management Strategy outlines the process the OR/WA Bureau of Land Management (BLM) State Office (SO) used, in cooperation with the Oregon Department of Fish and Wildlife (ODFW) and U.S. Fish and Wildlife Service (FWS), to determine if the soft and hard triggers were exceeded in 2016. The SO notified the BLM Washington Office (WO) in an information memorandum that ten PACs had tripped a soft or hard trigger in 2016 (Attachment 1).

Habitat Triggers

Habitat Trigger Calculation Method
The habitat trigger is based on the percent of habitat capable of supporting sage-grouse that is current (existing) habitat. For the 2016 calculation, areas in the Integrated Landscape Assessment Project (ILAP) current vegetation 2011-2013 map with at least five percent cover of sagebrush species and with less than five percent tree cover were considered to be current habitat. Current habitat was combined with the ILAP potential vegetation map to identify all capable habitat within a PAC. Combining current and potential vegetation can highlight model errors and data inconsistencies. For example, areas mapped as habitat in the current vegetation map may appear in the potential habitat map as areas not capable of supporting sagebrush habitat.

Any current habitat that burned during 2016 with moderate or severe intensity was removed from the calculation. Where burn severity data was unavailable, all capable habitat within the fire perimeter was removed. Vegetation treatments in capable habitat were not included in the trigger calculation, because the effectiveness of the treatments could not be determined from the ILAP data.

Results and Discussion
The soft habitat trigger (i.e., <65 percent sagebrush cover) was exceeded in the Cow Lakes, Trout Creeks and Steens PACs (Table 1). The trigger was tripped in each PAC prior to 2016, likely due to wildfires. In 2016, wildfire perimeter data indicates 20,130 acres of priority habitat burned in the Baker (431 acres), Bully Creek (322 acres), Crowley (18,286 acres), Trout Creeks (172 acres), Pueblos/South Steens (21 acres), and Folly Farm/Saddle Butte PACs (898 acres). Using burned area reflectance classification (BARC) data to estimate habitat loss from the largest wildfire, moderate to high severity fire burned one-half percent of current habitat in the Crowley PAC. Thus, habitat loss due to fires in 2016 did not cause any PACs to trip a habitat trigger.

Table 1: Habitat

PAC Name	PAC (acres)	Capable (acres)	Current Habitat (acres)	Current Habitat (Percent)
Cow Lakes	249,733	240,157	148,983	62.0
Steens	185,730	166,065	106,389	64.1
Trout Creeks	393,490	378,238	222,242	58.8

Vegetation treatments in capable sage-grouse habitat are not included in the trigger calculation. Adding juniper treatment acres to current habitat in the Steens PAC would result in 67 percent sagebrush cover, which is above the habitat threshold. Field offices should verify that treatments have restored the habitat (i.e., provides at least five percent sagebrush cover and less than five percent tree cover) and update the habitat trigger accordingly.

Initial wildfire reports indicated that Bully Creek PAC had tripped a habitat trigger due to the 2015 Bendire Fire. The Bendire Fire burned approximately 25,000 acres of sage-grouse habitat in the PAC resulting in 10 percent loss of habitat. However, analysis using BARC data shows the actual loss of capable habitat was 9,520 acres or less than five percent of capable habitat. In addition, the amount of current habitat in this PAC (70.8 percent) is above the soft trigger threshold. For 2016, the Bully Creek PAC has been determined to not have exceeded trigger thresholds.

Population Triggers

Population Trigger Calculation Method
The BLM calculated the population triggers using the process detailed in the document on the OR/WA BLM Greater Sage-Grouse Sharepoint titled 2016 GRSG Trigger Calculation Instructions. Population thresholds were revised in 2016 based on guidance from the ODFW to modify how the BLM was calculating the rate of change in observed lek occupancy PAC-wide. This rate of change is used to project attendance at non-surveyed leks (ARMPA page J-18). In 2016, and hereafter, the BLM will calculate rate of change using observed counts only at leks that were surveyed in consecutive years. Annual population estimates and thresholds were updated to reflect the revised lek attendance projections. In some cases, this change may have caused a PAC that was close to tripping the soft population trigger in 2015 to trip the trigger in 2016. In other cases, the reverse may have occurred. However, changes in calculation methods do not require a plan amendment.

Population Trigger Results and Discussion
Population triggers were exceeded in eight PACs (Table 2). Only the Baker PAC tripped the hard population trigger. The Baker PAC population has been in decline since 2006 and it dropped an additional 10.7 percent in 2016 from the 2015 estimated population. While the Cow Lakes and 12-Mile/Paulina PACs have tripped the soft trigger, both PACs are exhibiting an upward (positive) trend in population size. Conversely, Baker, Dry Valley/Jack Mountain, and Picture Rock PACs are exhibiting downward (negative) trends. Dry Valley/Jack Mountain was only one bird away from exceeding the hard trigger in 2016. The Brothers/N. Wagontire PAC experienced a large (-23.2 percent) drop in annual population size. If this trend continues into 2017, it will likely cause a hard population trigger to be tripped. Lastly, with the revised calculation of population thresholds, the Warners PAC has tripped the soft trigger, although annual population growth was strong in 2016.

Table 2: Population

PAC Name	Soft Threshold (males)	Hard Threshold (males)	2016 Estimate (males)	Five-Year Average (males)	Annual Change (percent)	Five-Year Avg Change (percent)	Trigger Tripped
12-Mile/Paulina	345.7	294.5	451	339.4	+18.3	+5.6	soft
Baker	246.3	169.9	102	132.1	-18.6	-17.7	hard
Brothers/ N. Wagontire	149.0	128.7	106	146.6	-23.2	-10.9	soft
Cow Lakes	291.4	216.8	265	235.8	-11.5	+4.2	soft
Crowley	341.2	267.3	328	340.2	-0.7	-5.7	soft
Dry Valley/ Jack Mtn	218.6	160.9	99	160.2	-21.5	-24.1	soft
Picture Rock	25.5	19.1	11	20.8	-8.3	-16.8	soft
Warners	530.3	403.3	534	428.1	+9.9	-1.3	soft

Population triggers are based on a combination of actual and estimated counts of males on lek complexes (ARMPA page J-18). In 2016, we determined the actual count data is insufficient for the Cow Valley PAC to calculate the five-year moving average population size. Based on counts at 13 lek complexes in 2016, the population increased 91 percent. However, most of the gain can be attributed to just four lek complexes which were last counted in 1997. Using lambda to project counts forward to 2016, the number of males at these lek complexes increased from 87 to 427, which is highly unlikely. For 2016 and beyond, the population trigger for the Cow Valley PAC will be based on the magnitude of the decline in the annual count relative to the number of lek complexes surveyed in the analysis year. This is the same trigger used in the Louse Canyon, Trout Creeks and Burns PACs which also have insufficient data to calculate the five-year moving average population. The number of males counted in the Cow Valley PAC in 2016 increased 36.1 percent over the previous year's count based on protocol surveys at 15 lek complexes in 2015 and 13 lek complexes in 2016.

Annual variation in environmental and resource conditions will cause population numbers to fluctuate around the thresholds specified in the ARMPA. Given these fluctuations, the ARMPA based population triggers on a five-year moving average. The soft trigger threshold is sensitive to moderate declines, thereby, providing time to adjust land management before reaching the hard trigger. The SO anticipates that tripping the soft population trigger will be an infrequent, but not unusual event. On the other hand, exceeding a hard trigger threshold indicates a more serious problem, because this threshold is based on more extreme or prolonged decline

While populations increased in 2016 on all BLM districts, except in the Baker Resource Area, the statewide population remains 26 percent below the ODFW population objective of 30,000 birds. Population estimates at the PAC scale indicate greater variation in population trend likely exists at this scale than at the district or state scale. Continued monitoring of a large number of leks will be necessary to determine whether the fluctuations are real (i.e., population is exhibiting normal cyclical behavior), or if carrying capacity in Oregon has been reduced.

Trigger Responses

As part of the adaptive management strategy, the SO developed responses to hard and soft triggers that involve management changes or more restrictive plan level actions to address declines in habitat or population. Appendix J of the ARMPA describes both hard and soft trigger responses. The nine required hard trigger responses are identified in Attachment 2. These nine hard trigger responses must remain in place until the habitat or population, whichever trigger was tripped, rises above the trigger threshold or after a plan amendment is completed to remove the required hard trigger response; see page J-11 for more details. The soft trigger responses listed on pages J-7 and J-8 are possible actions districts may take to address habitat or population declines. Districts should use the causal factor analysis process to determine whether any of these possible responses are appropriate or if other responses are warranted.

Causal Factor Analysis Process

The purpose for a causal factor analysis (CFA) is to identify the most probable causes for tripping an adaptive management trigger and to provide recommendations to the State Director or District Manager for hard and soft trigger responses. The SO is responsible for developing the CFA for hard triggers and district offices (DO) will prepare the CFA for all PACs that have tripped soft triggers. Each DO has at least one PAC with tripped triggers. Districts should prioritize PACs with

downward population trends for conducting CFAs (i.e., Brothers/N. Wagontire, Crowley, Dry Valley/Jack Mountain, and Picture Rock).

The process for completing a CFA is outlined in the ARMPA (pages J-9 through J-11). Attachment 3 is a worksheet to document and facilitate the CFA process; Attachment 4 is the recommendations for managing CFA data. These documents are posted on the OR/WA Greater Sage-Grouse Sharepoint site. The SO is piloting the CFA process in the Baker PAC, which has produced a draft report, conceptual models for organizing the analysis, and guidance on managing data. For soft triggers, the CFA should focus on habitat factors that may cause the population and/or habitat trigger to be tripped, rather than population factors, which tend to require a greater amount of data and time to evaluate.

Districts with unions are reminded to notify their unions of this IB 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   Authenticated by
Kathryn J. Stangl   K. Wentworth
Deputy State Director for   Records Section
Resources, Lands, Minerals and Fire

Attachments
    1 – Map of PACs that tripped triggers in 2016 (1p)
    2 – Nine required actions for hard triggers (1p)
    3 – Causal Factor Analysis Worksheet (6pp)
    4 – Causal Factor Analysis data management recommendations (1p)

Distribution
OR931 (Lee Folliard, Molly Anthony, Glenn Frederick, Louisa Evers)
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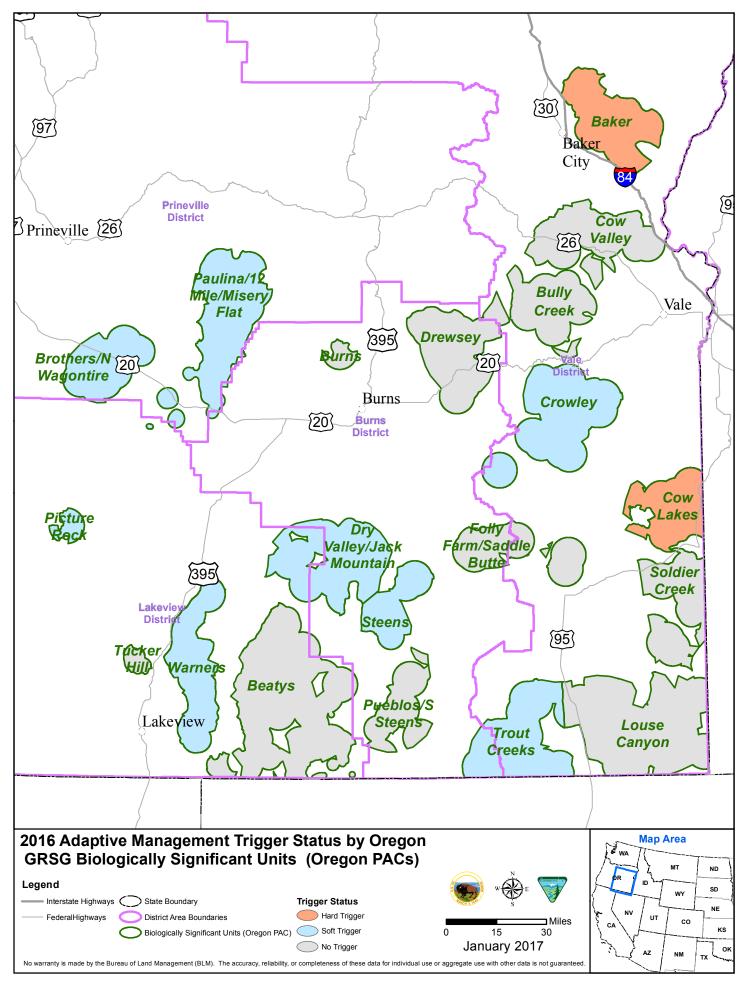Jamie McCormack
Jami Ludwig
Paul Whitman
Chip Faver
Jon Westfall
Rhonda Karges
Richard Roy
WO230 (Vickie Herren)
WO200 (Gordon Toevs)

30

Baker

Baker
City

84

9

Cow
Valley

26

Prineville
District

Vale

Bully
Creek

Paulina/12
Mile/Misery
Flat

395

Drewsey

Brothers/N
Wagontire

20

Burns
District

Vale
District

Prineville

26

Burns

20

Crowley

Burns
District

20

Picture
Rock

Dry
Valley/Jack
Mountain

Folly
Farm/Saddle
Butte

Cow
Lakes

Soldier
Creek

395

Steens

95

Lakeview
District

Tucker
Hill

Warners

Beatys

Pueblos/S
Steens

Louse
Canyon

Lakeview

Trout
Creeks

**2016 Adaptive Management Trigger Status by Oregon
GRSG Biologically Significant Units (Oregon PACs)**

Legend

— Interstate Highways   ⬭ State Boundary

— FederalHighways   ⬭ District Area Boundaries

                               ⬭ Biologically Significant Units (Oregon PAC)

Trigger Status

🟧 Hard Trigger

🟦 Soft Trigger

⬜ No Trigger

Miles

0   15   30

January 2017

Map Area

WA

MT   ND

OR   ID   SD

        WY

NV   UT   CO   NE

CA   KS

    AZ   NM   TX   OK

No warranty is made by the Bureau of Land Management (BLM). The accuracy, reliability, or completeness of these data for individual use or aggregate use with other data is not guaranteed.

Attachment 1 -1

Oregon Immediate Hard Trigger Responses
Nine Required Actions for Hard Triggers

Within the boundaries of the Baker and Cow Lakes Priority Areas of Conservation (PAC), the following direction takes effect immediately upon notification of district offices:

- Do not use prescribed fire to treat sagebrush in the <12 inch precipitation zone. As a last resort and after all other treatment options have been explored and as site-specific variables allow, consider using prescribed fire for fuel breaks in stands where annual grass is a very minor component in the understory.
- Do not conduct mechanical sagebrush treatments in known Greater Sage-grouse winter habitat.
- Limit broadcast burning of juniper-invaded sagebrush to no more than 160 acres per treatment block in Priority Habitat Management Area (PHMA).
- Issue no new geophysical exploration permits in PHMA.
- Make PHMA exclusion areas for new right-of-way authorizations. The Boardman to Hemmingway right of way is an exception for the Baker PAC, but the environmental impact statement must analyze the impact of this disturbance on Sage-grouse populations within the PAC.
- Restrict off-highway vehicle use to areas greater than two miles from occupied and pending leks during the breeding season (March 1 through June 30). Exceptions are permitted in order to protect human life and safety, such as search and rescue operations and wildfire response, and to support essential farm operations in keeping with the terms and conditions of valid grazing permits, such as fence repair and to deal with ailing or dead livestock.
- When reseeding closed roads, primitive roads, and trails use appropriate native seed mixes and require use of transplanted sagebrush. Use of non-native species is not permitted.
- Prohibit new road construction within four miles of active Greater Sage-grouse leks, subject to valid, existing rights and to protect human health and safety.
- Prohibit construction of recreational facilities, such as kiosks, signs, and toilets, within two miles of occupied and pending leks.

These decisions shall remain in place unless removed by a plan amendment or once the affected PACs rise above the soft trigger threshold:

- Baker PAC – the five-year running mean sage-grouse population must exceed 246 males and be on an upward trend
- Cow Lakes PAC – the five-year running mean sage-grouse population must exceed 291 males and be on an upward trend and at least 65 percent of the area of the PAC capable of supporting sagebrush must have at least five percent sagebrush cover and less than five percent tree cover with sagebrush cover on an upward trend.

PAC Causal Factor Analysis Worksheet

PAC Name:	Choose an item.			
Date Started:	Click here to enter a date		**Date Completed:**	Click here to enter a date.
Trigger Type:	Soft Trigger	Habitat ☐ Population ☐	Hard Trigger	Habitat ☐ Population ☐

Team Members		
Name	**Position**	**Agency/Tribe**

Applicable Threats
(Select all that are present)

Isolated/small size	☐	Sagebrush elimination	☐
Agriculture conversion	☐	Fire	☐
Conifers	☐	Weeds/annual grasses	☐
Energy	☐	Mining	☐
Infrastructure	☐	Grazing	☐
Free-roaming equids	☐	Recreation	☐
Urbanization	☐		
Other (describe):	☐		

Situation Analysis (Describe the findings)

Recommended Management Responses (Deciding official's list of responses, prioritize as appropriate)

Monitoring Plan (Describe any additional monitoring beyond that included in the GRSG amendments)

ANNUAL REVIEW

Date Completed: Click here to enter a date.		
Current Status of PAC Triggers	Population:	Habitat:
Recommendations still valid:	Yes ☐ No ☐	
New analysis needed:	Yes ☐ No ☐	
Actions taken to date:		

Date Completed: Click here to enter a date.		
Current Status of PAC Triggers	Population:	Habitat:
Recommendations still valid:	Yes ☐ No ☐	
New analysis needed:	Yes ☐ No ☐	
Actions taken to date:		

Date Completed: Click here to enter a date.		
Current Status of PAC Triggers	Population:	Habitat:
Recommendations still valid:	Yes ☐ No ☐	
New analysis needed:	Yes ☐ No ☐	
Actions taken to date:		

Date Completed: Click here to enter a date.		
Current Status of PAC Triggers	Population:	Habitat:
Recommendations still valid:	Yes ☐ No ☐	
New analysis needed:	Yes ☐ No ☐	
Actions taken to date:		

Date Completed: Click here to enter a date.		
Current Status of PAC Triggers	Population:	Habitat:
Recommendations still valid:	Yes ☐ No ☐	
New analysis needed:	Yes ☐ No ☐	
Actions taken to date:		

Detailed Report

Problem Statement

Provide some detail on what the problem is

Description of the Area

General Description

Describe PAC size, general features, climate, etc.

BLM Land Allocations

Resistance and Resilience

Briefly describe the extent of the various resistance/resilience classes.

Sage-Grouse Population and Trend

Needed for population triggers, optional for habitat triggers

Analysis Approach

Describe the general approach used to conduct the analysis, including whether and which stakeholder groups were involved and what level of public input was obtained. For population triggers, use the conceptual models in the OR/WA GRSG Sharepoint Site to help frame the analysis needs and approach. For population soft triggers focus primarily on habitat conditions (use the conceptual population models to identify which of the threats and causes/drivers you will analyze).

Table x. List of geospatial data types and sources with year the layer was compiled, where known.

Data Type	Source	Year(s)

Relevant Factors

Delete any factors that are not present and add factors the team has identified as relevant but are not included in the list on page 1. Briefly describe the factor and what evidence is available for what role the factor may be playing in the decline of sage-grouse populations or habitat. The team may want to eventually sort the factors into those that are important over all or most of the PAC (broad-scale) and factors that are important in only a portion of the PAC (localized).

Isolation

Agricultural Conversion

Vegetation Condition

Sagebrush.

Native Herbaceous Plants.

Trees.

Invasive Plants.

Energy Development

Infrastructure

Free-roaming Equids

Urbanization

Fire

Mining

Grazing

Recreation

Conclusions

Note – these will come forward to the Situation Analysis

On-going Actions

Briefly list or discuss what actions, Management Decisions, RDFs, and BMPs are already planned or underway that address the factors identified as important.

Potential Actions

List the types of management actions that could address the causal factors identified above. The deciding official will select from this list and copy the selected actions into the Recommended Management Responses near the beginning of the template. This section will retain the full list of suggestions. Consider whether to include methods of prioritizing which areas to focus on and partnership opportunities.

References

Causal Factor Analysis Data Management
Recommendations

1. Set up dedicated directory to the CFA project with a directory structure that includes directories for all documents, maps, reports, MXDs etc. , ", log directories to house incoming data in original format, and work requests directories to house all requests for data development, analysis, maps, reports etc. We recommend that the data directory be set up in this location (\\blm\dfs\or\egis\projects\oso\SageGrouse_AdaptiveMgt) so that users from the district, State Office and neighboring districts can review the data and data products.

2. Establish a naming convention so that all users of the data and directory structure can understand what the file is, based on its name and include what type of data, the phase of the project if needed, the projection etc.

3. Establish a final geodatabase to house final datasets or important and useful interim datasets.

4. When developing new data, use geoprocessing models or scripts to track data source, geoprocessing tasks and final datasets.

5. Provide a robust web base data viewer that allows members of the team to view/query multiple datasets and attributes and analyze data. The data viewer is in GeoCortext, at this time, but that may change.

6. Set up a system in sharepoint that tracks incoming data, data source, where it is logged in the log directory, etc. and all requested data products so other team members can see what analyses and data products have been developed.

7. Set up directory structure on the sharepoint site to house final analyses reports, spreadsheets, maps, and important documents.

8. Ensure that all data files have Metadata before using in a web viewer, sharing with other agencies, and finally incorporating back into the corporate databases.

9. Identify how the data gets back into the corporate system. Is it from an external source? Did the dataset come from the district and need to go into the corporate data structure? Ensure that all data updates corporate databases as necessary.

10. Set up meeting to discuss what is required for an administrative record.