

Science Work Group for the SETT
Summary of Discussion for the October 23, 2013 Meeting
Desert Research Institute, Room Stout A, Reno, NV 89512

1. What is the threshold (numerator) of anthropogenic disturbances that result in a long-term negative impact to sage-grouse populations?

The SWG discussed this topic extensively. The list of literature that the SETT gathered was relatively complete. The conclusion reached by the group is that the current body of literature on this topic is still emerging, and as with many other topics in the Great Basin, the threshold will likely vary by location, landscape context, and limiting habitat.

The conservation value of setting a threshold that triggers more conservation management was discussed and general consensus agreed that is valuable. It was discussed that one must know what the change in management would be in order to establish a relevant threshold. The Council has not clearly stated what the change in management would be. Hard numbers, or triggers, are valuable because they are enforceable. Potentially the SEC can set hard numbers within a “flexible space” that would allow for the variability described in the first paragraph.

This could be established through a variety of means discussed by the SWG:

1. Decision tree - this is how we say yes or no. This can be difficult to develop and there can be some variation in how it is implemented by different individuals and agencies (i.e. may result in ground hog day).
2. Quantitative questions that provide a range of thresholds – this would require quantitative models (that predict level of impact to sage-grouse) that would have differing levels of confidence based on current understanding. Science Work Group can help develop these questions.
3. Set a range of thresholds based on the limiting habitat in the PMU (most conservative) to most available habitat (least conservative).

To be able to provide “regulatory assurance”, measures need to afford conservation and need to be enforceable and enforced.

In addition, as we are early in our understanding, the thresholds that are set should be evaluated to see if they are meeting the objective. Set a 5-10% disturbance threshold and then evaluate populations every decade to see if that is sufficient. A decade was recommended as yearly population counts are variable and it generally seems that effects to populations can be determined at the decadal scale.

2. What is the scale (denominator) at which cumulative impacts should be assessed?

The Science Work Group determined that the scale at which cumulative impacts should be assessed is at the scale of the sub-population or Population Management Unit (PMU). The scale of the sub-population is ideal as this would generally look at the entire landscape that birds of a subpopulation use. The area that birds require needs to be protected; otherwise there is risk of losing a population. However, as there is still incomplete understanding on population dynamics across the state, when this information is not available, the PMU scale should be used.

The SWG recommended that in addition to using the scale of the PMU, the amount of and juxtaposition of the different seasonal habitats in an area should be evaluated, as discussed under Question 1. For example, sage-grouse may be more sensitive to disturbance in seasonal habitats that are limited, and as data are available, the scale of seasonal habitat within a PMU should be considered.

3. How should natural disturbances, such as fire, be quantified in an analysis of cumulative impacts?

From a spatial perspective, the footprint or perimeter of the fire could be used to delineate the disturbance. However, at what point would a fire no longer be considered a disturbance?

The following is what the Wyoming Plan has to this end. The Science Work Group indicated that this approach is appropriate for Nevada as well; the track changes indicate what would be changed to meet the needs of Nevada.

Any fire is assumed to be a disturbance until the following trend data can be demonstrated:

“If sagebrush canopy cover is + 5%, as measured by the method described in the Habitat Assessment Framework (HAF), it is considered suitable. Executive Order 2011-5 requires the below standards plus sagebrush for all reclamation (where appropriate as described). When sagebrush canopy cover is <5%, but within 60 meters of >10% sagebrush canopy cover measure to determine compliance with the following conditions:

Measure for 2 (or more) desirable native grasses at least one of which is a bunchgrass. The species present in the reclaimed area should be reflected in an appropriate reference site, described in the ecological site description (ESD) for the reclaimed site(s), or be representative of pre-disturbance species data. A

reference site will be agreed upon and determined by the land management agency or owner, WGFD and the proponent. It is recognized that reference sites could be numerous for linear features.

The frequency of occurrence of grass is expected to meet or exceed 70% of the frequency of grass as measured on the reference site, or as described in the ESD for the reclaimed sites(s), or as represented in the pre-disturbance species data. Grass canopy cover measurement is expected to meet or exceed 70% of the grass canopy cover as measured on the reference site, or as described in the ESD for the reclaimed sites(s), or as represented in the pre-disturbance species data.

Likewise, measure for 2 desirable native forbs. The frequency of occurrence of forbs is expected to meet or exceed 70% of the frequency of forbs as measured on the reference site, or as described in the ESD for the reclaimed sites(s), or as represented in the pre-disturbance species data. Forbs canopy cover is expected to meet or exceed 70% of the forb canopy cover as measured on the reference site, or as described in the ESD for the reclaimed sites(s), or as represented in the pre-disturbance species data.”
(Wyoming 2012)

4. Definitions of “disturbance”.

Disturbance - any action that can cause negative, observable or potential impacts to demographics of sage-grouse.

Habitat - any piece of ground that meets the needs for sage-grouse including for cover and food.

Restorable habitat - any piece of ground that is not currently habitat, but, per the Ecological Site Description, has the potential to be habitat. *(These lands can be used to create credits.)*

Literature Cited

Wyoming. 2012. DDCT Frequently Asked Questions. Available at: <https://ddct.wygisc.org/Data/Sites/24/files/FAQs.pdf>. Accessed October 2013.