

USGS DRAFT TALKING POINTS: 11-18-14

USGS Open-File Report: Conservation Buffer Distance Estimates for Greater Sage-Grouse

Overall:

USGS has released a new peer-reviewed report that compiles and evaluates the influence of human activity on greater sage-grouse populations. Its purpose is to help establish consistent buffer distances for use in conservation measures for greater sage-grouse habitat.

- The Interior Department's Bureau of Land Management (BLM) requested this assessment.
- It was requested because across the range of greater sage-grouse a wide variety of buffer distances have been posed in the literature and by managers as appropriate for providing protections for the species and implementing conservation measures. Providing a common reference for sage-grouse can help DOI leaders make informed land management decisions about buffer distances.
- Conservation measures reduce the impacts of human land-use on greater sage-grouse populations. Measures can range from complete closure of important habitats to the seasonal restriction of human activity within specified distances (i.e., buffers) around sage-grouse communal breeding locations, known as leks.

What We Did:

USGS scientists reviewed, compiled, and summarized the findings of previously published USGS and non-USGS scientific studies that evaluated the influence of human activities and infrastructure on greater sage-grouse populations. The report is organized into six sections representing different land uses or human activities typically found in land-use plans:

- generalized and cumulative surface disturbances and associated activities;
- linear features such as active roads and highways, and pipelines;
- oil, gas, wind and solar energy development;
- tall structures such as electrical, communication and meteorological towers;
- low structures such as fences and buildings;
- and activities that don't involve habitat loss, such as noise and related disruptions.

To develop conservation buffer distances for these categories, the team of scientists reviewed and synthesized the literature. Using this information and knowledge of affected areas and distribution of birds around leks, the team developed possible minimum and maximum estimates for conservation buffer distances.

- Within each of the six categories, a table shows the minimum and maximum distances found in the scientific literature, as well as an interpreted distance range for possible conservation buffers based on scientific literature and the review of the science team.

Findings:

Protective buffers around lek sites can be used in developing conservation measures for sage-grouse, although it may not protect all important habitats or populations. The report provides lek buffer distance estimates that reflect radii around lek locations.

The scientific literature indicates that, in some populations, 90-95% of sage-grouse movements are within 8 km (5mi) of lek sites, and the majority of females nest within approximately 5 km (3.1mi) of the lek. This suggests that considerable protection of sage-grouse could be achieved using protective measures within these generalized conservation buffer distances.

- Other factors also need to be taken into consideration since sage-grouse movement patterns can vary widely between populations and because of differences in sagebrush habitat and habitat condition across the landscape.
- High or poor quality sagebrush habitat could play an important role on the potential effects of human infrastructure and activities on sage-grouse populations.
- There could also be effects in much larger areas because sage-grouse home ranges as large as 3,000 sq km (1000 square miles) have been documented in some portions of the species' range.
- These larger distance effects suggest that for some populations, the minimum distance inferred here (5km, 3.1mi) may be insufficient to protect nesting and other seasonal habitats.

How the Report Can Be Used:

The buffer distance estimates in the report can be used in developing conservation measures, but should be taken into context with the broader considerations of conservation planning that considers a variety of factors, such as local and regional conditions, habitat quality, and cumulative impact of a suite of conservation and management actions.