SAGE-GROUSE MAPPING AND PRIORITY HABITATS

Notes from the Lek

Greater Sage-grouse Conservation Primer Series
Primer # 3

Greater sage-grouse conservation on a range-wide scale depends upon defining the range of the species and the identification and classification of habitats. The classification of habitats allows conservationists to focus on important habitats with defined risks that can be addressed by a suite of conservation measures. At the present time we have two mapping products that can provide insight for directing conservation efforts. First, we have a breed bird density map often referred to as the "Thunderstorm map". The other products or series of products are derivatives of the thunderstorm map and use species experts' identification of important habitats as they relate to seasonal or yearlong needs of populations.

Framing the geographical parameters, this primer will display the historic and current range of sage-grouse (Figure 1) Sage-grouse Management Zones (Figure 2), and the breeding bird density map (Figure 3). Priority habitat maps are state and BLM products and we have provided links to those maps that are cut on state boundaries. At the present time state and federal biologists are beginning the process of edge matching priority habitat across state boundaries. This exercise is expected to be completed by mid-summer, 2012.

Distribution: Pre-settlement and Current

The current and pre-settlement map of Greater sage-grouse was developed by state and federal sage-grouse experts in 2005 (Schroeder, et al., 2005). The pre-settlement distribution of Greater sage-grouse is estimated to be 463,509 miles^2. The estimate of current distribution is 258,075 miles^2 or about 56% of the pre-settlement number.

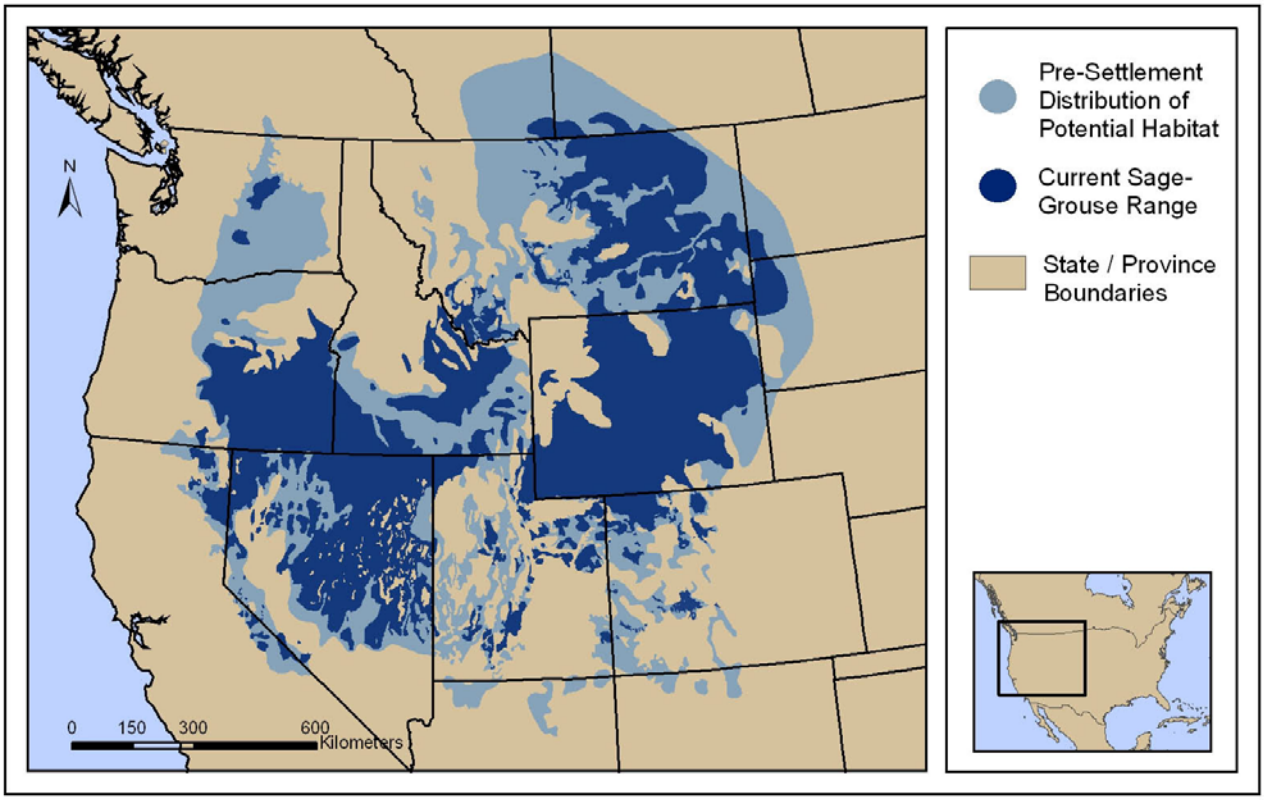

Figure 1 Pre-settlement Potential Habitat and Current distribution (Greater Sage-grouse Comprehensive Conservation Strategy)

Sage-grouse Management Zones

The Greater Sage-grouse Comprehensive Conservation Strategy developed sage-grouse management zones determined by sage-grouse populations and sub-populations identified within seven floristic provinces. Floristic provinces (identified by Connelly et al. 2004) were used to delineate Management Zones because they reflect ecological and biological issues and similarities, not political boundaries. In addition, the vegetation communities found in the floristic provinces, as well as the management challenges, within a Management Zones are similar and sage-grouse and their habitats are likely responding similarly to environmental factors and management actions.

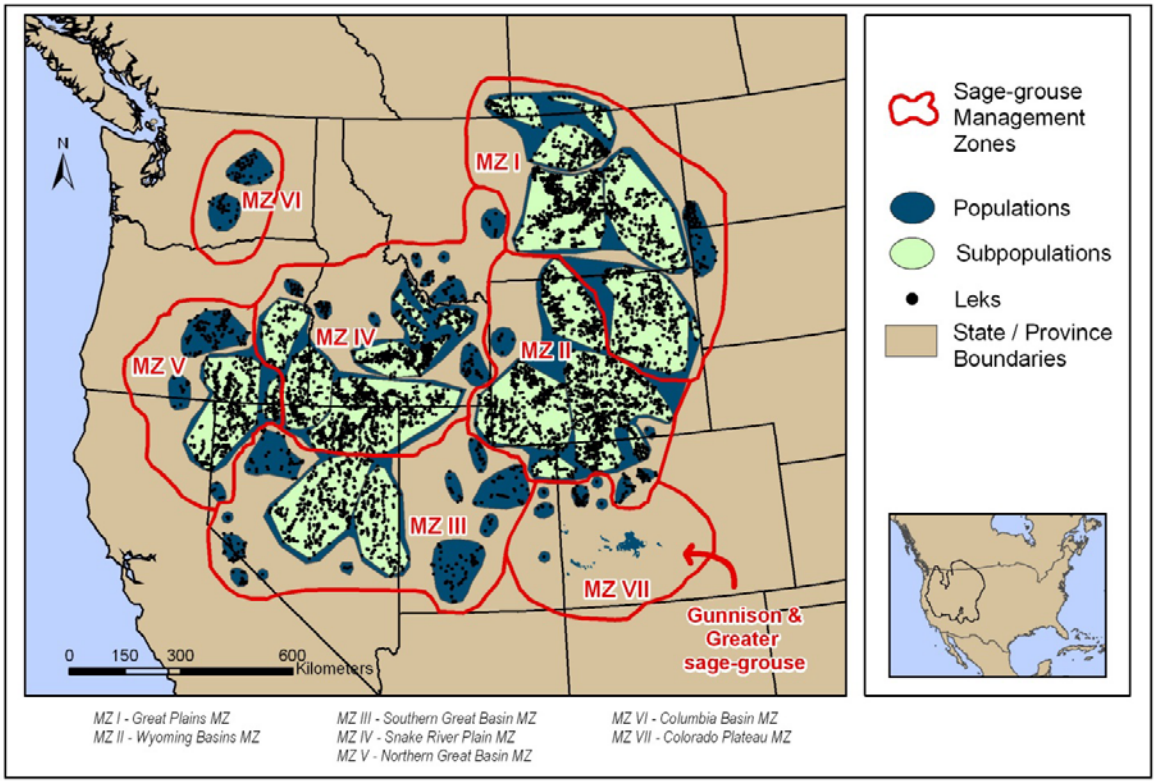

Figure 2. Sage-grouse Management Zones with Populations and sub-populations.

Breeding Sage-grouse Density Map

The BLM funded and coordinated the project and worked with the Western Association of Fish and Wildlife Agencies, the U.S. Fish and Wildlife Service, the University of Montana and The Nature Conservancy to make it happen.

The range-wide breeding sage-grouse density map was developed by Doherty, et al. in 2010. The data used to generate the map were collected in the states during lek counts. Lek counts are conducted to measure trends in populations.

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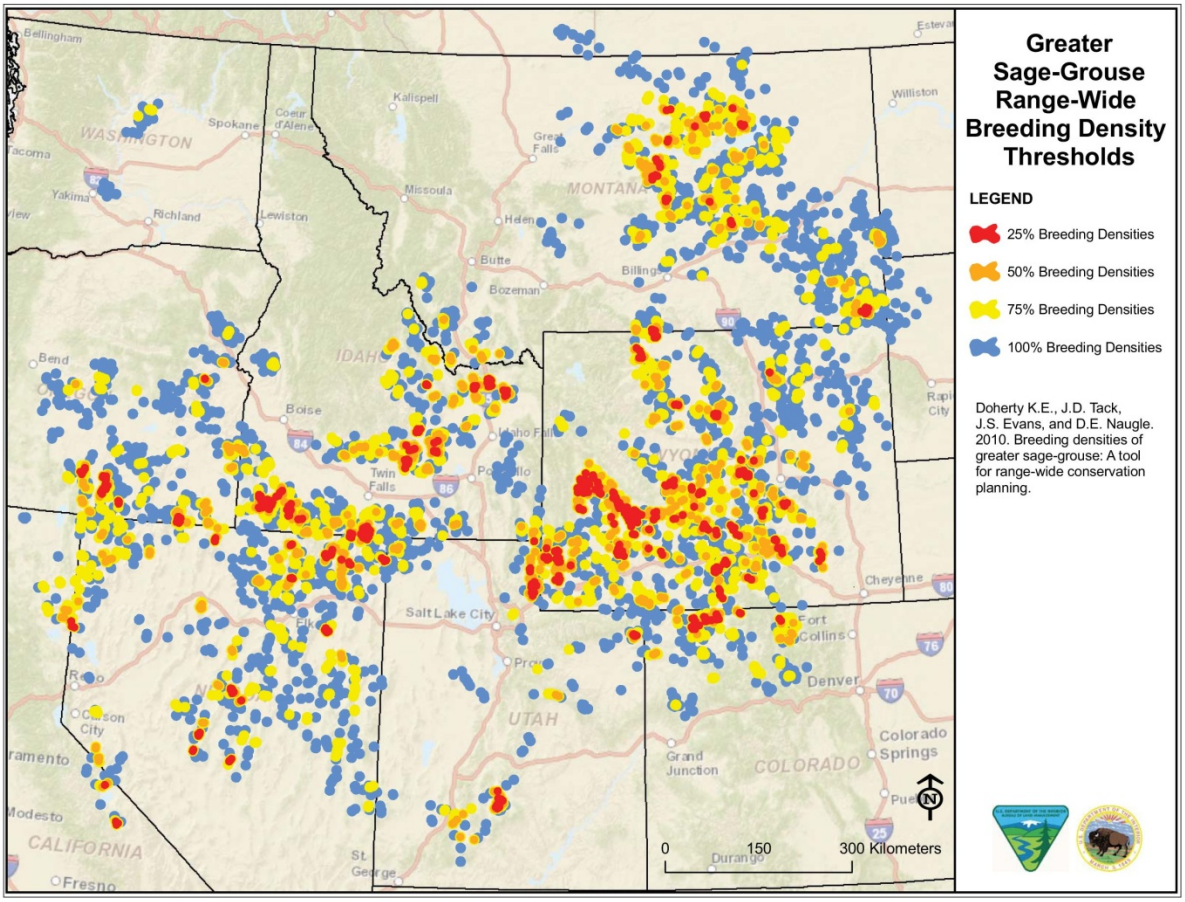

Figure 3. Sage-grouse breeding densities.

http://www.blm.gov/wo/st/en/prog/more/fish__wildlife_and/sage-grouse-conservation/bird_density.print.html

Sage-grouse Priority or Core Habitats by State:

The BLM, FWS, and WAFWA determined that the "Thunderstorm Map", while helpful in focusing attention on important geographical boundaries for conservation efforts on a range-wide scale, it did not address seasonal ranges, areas that did not have significant breeding bird counts and local subject matter expertise. The BLM recognized that scale mapping was essential to addressing regulatory mechanisms in their Strategy and teamed with the states to develop state management maps. Many of these maps have been recently completed or are in final stages of completion. We opted to provide links to these maps since they provide local (individual state) data and are subject to updating.

California:
BLM generated map with state input. Not on the web yet.

Colorado:
http://wildlife.state.co.us/SiteCollectionDocuments/DOW/WildlifeSpecies/GrSG_PPH_PGH_20120309_Final.pdf

Idaho:
The main Idaho BLM sage-grouse page is linked here: http://www.blm.gov/id/st/en/sage-grouse_rmp_revision.html
The Idaho priority map is incorporated in the report found at this link:
http://www.blm.gov/pgdata/etc/medialib/blm/id/wildlife/sensitive_species/sg_scoping_meeting.Par.67149.File.dat/Idaho_Sage-grouse_Priority_Areas_White_Paper_September_27_2011_FINAL_508.pdf

Montana:
http://fwp.mt.gov/gisData/imageFiles/sgcore.jpg

Nevada:
http://www.ndow.org/wild/conservation/sg/SageGrouseHabCat/NDOW%20SG%20Habitat%20Categorization%20-%20Mar%202012.pdf

North Dakota:
Very limited distribution.

Oregon:
http://nrimp.dfw.state.or.us/DataClearinghouse/default.aspx?p=202&XMLname=944.xml

South Dakota:
Not completed at this time. Very limited distribution.

Utah:
Working on a core area map. Expected by 1 June 2012.

Washington:
http://wdfw.wa.gov/publications/00395/

Wyoming:
http://sunlight.wygisc.uwyo.edu/GovSageGrouse/#