5. We will prioritize the importance of PACs to inform our ultimate decision (how? By grouping PACs into 4 ranked categories according to bird density, where highest density of birds indicates highest priority PAC?)

   We anticipate identifying a number of variables that measure PAC integrity such as percent area and percent population within a PAC not at risk, as well as metrics such as the relative contribution each PAC has to the total population, before and after threats. This type of analysis will highlight areas with higher densities of birds and numbers of birds, resulting in a prioritization of the populations across the range.

6. We will assess whether or not major threats of habitat loss, fragmentation and inadequacy of regulatory mechanisms have been addressed since 2010 using the following spatially explicit approach and logic:

   a. For each of the major threats identified from 2010 (fire risk and invasive grass risk, conifer encroachment, energy development risk, conversion to tilled agriculture risk) and new threats identified as population level stressors we will, through the species report:

      i. Quantify threats to both relative abundance and distribution of sage-grouse by the use of Spatially Explicit Modeling (SEM).
         1. SEM of threats will be addressed within the landscapes they are most important. For example, we would not spend time building an oil and gas model for Idaho; instead, we would make sure our fire and invasive work is solid in that state.

      ii. Use the predictions of our SEM's quantify impacts to each PAC individually. Conducting analyses in this fashion will allow us to understand the scale of the threat to the overall distribution and relative abundance of grouse as well as to each individual PAC. If the analysis is solely conducted within the PAC, we cannot scale results up.

      iii. Understand how state and federal plans, local conservation efforts, and voluntary conservation mechanisms have removed or reduced impacts from threats. Methods will vary depending on degree of clarity within the scientific peer reviewed literature, strength of models in our SEM, and certainty of impacts or not from the USFWS' judgment. Analyses could range from modeling efforts, to expert opinion and USFWS' professional judgment. Possible methods could include:
         1. Running different scenarios through our analytical SEM framework

         2. Use of the USGS facilitators to employ modeling techniques such as Bayesian belief networks to increase transparency and defensibility of our decisions.