

## BLM Land Health Standards Datasets & Data Synthesis

We adopted decision rules developed by USGS in an earlier study (Veblen et al. 2011, <http://pubs.usgs.gov/of/2011/1263/pdf/ofr20111263.pdf>) to create a one-to-one relationship between allotments and LHS status. When conflicts in the data were encountered within or between datasets, and one record indicated that standards had not been met, the allotment was classified as not meeting standards. Similarly, if a conflict was encountered between records regarding cause of failure to achieve standards, and livestock was identified in one record, the allotment was classified as not meeting standards due to livestock. Often one record contained more descriptive or causal details than another for the same allotment. Likewise, inconsistencies in the LHS status for the same LHS evaluation at times were encountered between the two datasets we received (i.e., the record in the 2008 dataset reporting livestock as a cause of failure, while the updated dataset recorded the reasons for failure, but not the cause, such as livestock). In such conflicts, the status was based on the record containing the causal information.

Our focus was on whether or not livestock grazing was identified as a contributing cause for failure to meet any standard, rather than specific standards. Failures were occasionally attributed to standards that did not fall under those specified in the regulations, such as air quality. In these instances the allotments were considered to have met standards. To make summary calculations, mapping, and further analyses possible, we read individual LHS evaluation and causal determination descriptions, then grouped them into the following classes or categories: All Standards Met, Not Met – *Existing* Livestock, Not Met – *Existing* and Historic Livestock, Not Met – Historic Livestock, Not Met – *Not Existing* Livestock, Not Met – Not Livestock, Not Met – Indicators Only, Not Met – Standards Only, Not Met – Making Significant Progress, Determination Not Complete, and No Data. We used these categories to enable us to merge records in several different ways: (1) map any livestock-caused failures to meet standards from an ecologically-based perspective; and (2) combine categories to better match those used by BLM for comparison purposes.

For general summary and mapping purposes when dealing with only those allotments that had one or more LHS evaluation, we collapsed the detailed classes into the following general classes: All Standards Met, Not Met – Livestock, Not Met – Not Livestock, and Not Met – Insufficient Information.