

Developing the 18th indicator for interpreting indicators of rangeland health on Northern Great Plains rangelands

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National Resources Inventory (NRI) resource assessment reports show little to no departure on Rangeland Health for most Northern Great Plains Rangelands. This information is supported by Interpreting Indicators of Rangeland Health (IIRH) data collected at local to regional scales. There is, however, a mismatch between what these data are showing and what resource professionals are seeing on the ground. Despite evident ecosystem changes, IIRH assessments show little to no departure from reference condition for soil stability and hydrologic function and slight to moderate departure from reference condition for biotic integrity. These differences are mainly attributable to invasion of Kentucky bluegrass, smooth brome and other exotic grasses.

According to NRI data, Kentucky bluegrass is now present in over 85% of the areas sampled. This non-native, perennial, cool season grass can serve to stabilize soils and increase site stability. It affects nutrient flows, soil structure, and plant community composition affecting biotic integrity; and it affects the hydrologic function of an area by changing root structure and the way in which water flows, is captured and then safely released back into the ecosystem.

Based on our assessments, we believe that the current 17 indicators for Interpreting Indicators of Rangeland Health do not fully capture the current condition of these rangelands.

Through field observation, literature review and professional knowledge, we present a protocol for creating and describing an ecologically based indicator.

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http://www.researchgate.net/publication/263852061_An_integrated_approach_to_grazingland_ecological_assessments_and_management_interpretations