

Introduction

Overview

This report presents summary results from National Resources Inventory (NRI) on-site data collected on non-Federal rangelands. The survey is conducted by the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) as a part of the NRI survey program. The findings reported here focus on key issues in rangeland science, including rangeland health, non-native plant species, non-native and native invasive plant species, bare ground, inter-canopy gaps and soil surface aggregate stability. NRI rangeland on-site data collected 2004-2010 and 2011-2015 are used to provide estimates of change in rangeland conditions.

The NRI survey program is scientifically based, employing recognized statistical sampling methods. The NRI rangeland on-site survey was conducted by NRCS in cooperation with Iowa State University's Center for Survey Statistics and Methodology (ISU-CSSM), which serves as the NRI Statistical Unit providing statistical and survey methods support for the NRI survey program.

Background

Rangeland is defined by the NRI as a land cover/use category on which the climax or potential plant cover is composed principally of native grasses, grasslike plants, forbs, or shrubs suitable for grazing and browsing, and introduced forage species that are managed like rangeland. This includes areas where introduced hardy and persistent grasses, such as crested wheatgrass, are planted and such practices as deferred grazing, burning, chaining, and rotational grazing are used, with little or no chemicals or fertilizer being applied. Grasslands, savannas, many wetlands, some deserts, and tundra are considered to be rangeland. Certain communities of low forbs and shrubs, such as mesquite, chaparral, mountain shrub, and pinyon-juniper, are also included as rangeland.

NRI rangeland on-site data has been collected in 17 western states, encompassing those states from North Dakota to Texas and west. A limited amount of NRI rangeland on-site data has also been collected in Louisiana and Florida. The NRI rangeland on-site data are collected at a scientifically selected subset of NRI sample points, allowing the NRI rangeland on-site data to be linked to broader estimates of surface area and land cover use provided in the NRI. Rangeland area estimates were developed based on 2012 NRI estimates of nearly 406 million acres of rangeland in these states (U.S. Department of Agriculture, 2015) (Figure 1).

Figure 1 Acres of Non-Federal Rangeland, 2012



The NRI rangeland results presented here address current conditions and change in conditions based on data collected on approximately 10,000 NRI rangeland locations during each of two time periods, 2004 to 2010 and 2011- 2015. With the assistance of a global positioning system (GPS), data collectors navigate to sample locations and collect on-site data. Data collected at these locations are assimilated and analyzed in order to present estimates that meet statistical standards and are scientifically credible in accordance with NRCS policy and Office of Management and Budget (OMB) and USDA Quality of Information Guidelines.

An interagency group—the USDA-NRCS, USDA-Agricultural Research Service (ARS), U.S. Department of Interior (USDI)-Bureau of Land Management (BLM), USDI-U.S. Geological Survey (USGS), and the USDA-Forest Service (USFS)—worked together to develop field data collection protocols and data elements that could be used for national inventories. Pilot studies tested the rangeland protocols prior to implementing them as part of the NRI Grazing Land Study that began in 2003. Rangeland data collected according to these protocols provide information that can be used to assess current conditions, and in the future as sites are revisited, data collected with these protocols will provide the basis for determining changes in rangeland conditions.