Ranching Sustainability in the Northern Great Plains: An Appraisal of Local Perspectives

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On the Ground

- In eight counties in Montana, South Dakota, and Nebraska, characterized by high levels of intact Northern Great Plains grassland habitat, ranchers observe the following sustainability challenges:
  - Land prices and lack of land for purchase
  - Profitability
- Family succession and community change (depopulation)
- Notably, they do not anticipate extensive cropland conversion in the western edge of the Northern Great Plains.
- We observe differences in the experience of these challenges based on the ranch ownership lifecycle.
- In response, we recommend that conservation and government programs focused on sustainable ranching should adopt a framework for strategy and program evaluated based in the lifecycle framework.
- Assisting emerging ranchers, according to this research effort, will demand more than coming up with loan funds or extra forage. Rather it will mean rethinking the existing pathway that operators follow on the route from emerging to established ranchers.
- In addition, conservation and government programs and future research should address the impacts and patterns of land agglomeration in the Northern Great Plains.

Keywords: ranching, sustainability, succession, conservation, life cycle.

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Spanning 183 million acres, five states (North Dakota, South Dakota, Nebraska, Montana, and Wyoming) and two Canadian provinces (Alberta and Saskatchewan), the Northern Great Plains (NGP), a short- and mixed-grass prairie, is one of only four remaining intact temperate grasslands in the world.[1] Roughly half of the 183 million acres in the NGP (or 91 million acres) are privately managed intact rangelands (e.g., native and planted grass, sage steppe), primarily used for beef production. These private ranches provide habitat for threatened species and contribute to ecosystem service provision such as carbon sequestration and water quality and quantity. From this perspective, native prairie represents one of North America's greatest assets and most important conservation opportunities, and ranchers are managing much of what remains today.

In recent years, diverse forces have converged to accelerate land use and social change in the grasslands of the NGP, including the spatial expansion of soy and corn crop agriculture and fossil fuel energy development, as well as land ownership transfers involving buyers new to the ranching landscape. The pace and scale of changes resulting from these forces, along with continued and growing concern about the vulnerability of the region to the impacts of climate change, have prompted global and national interest in developing conservation strategies that align with the region's unique social, economic, and environmental qualities. As a step in the development of targeted conservation strategies, we recently conducted an appraisal of current trends in ranch ownership and management in NGP. Our appraisal relied on a combination of land ownership data, socioeconomic data, and in-depth interviews with ranch operators and other local and regional experts. A full-length report, available online, offers socioeconomic trend data, results of an exploratory land tenure analysis, and supplemental maps.[2]

In this article, we share what we learned from interviewing 56 ranchers and other local agricultural experts about the nature of perceived threats and opportunities to the sustainability of their grassland operations. We aim to continue the shared dialogue that has recently emerged between diverse stakeholder groups in the region including ranchers, nongovernmental organizations (NGOs), land management agencies, and community development professionals. Along with the results of our interviews, we offer a new framework for thinking about sustainability challenges and their interventions: the ranch lifecycle framework.

A Classic, yet Vulnerable, Grasslands Geography

Figure 1 describes the importance of the Northern Great Plains to the future of grasslands conservation, which shows intact prairie habitats by ownership type. The western edge of the NGP,

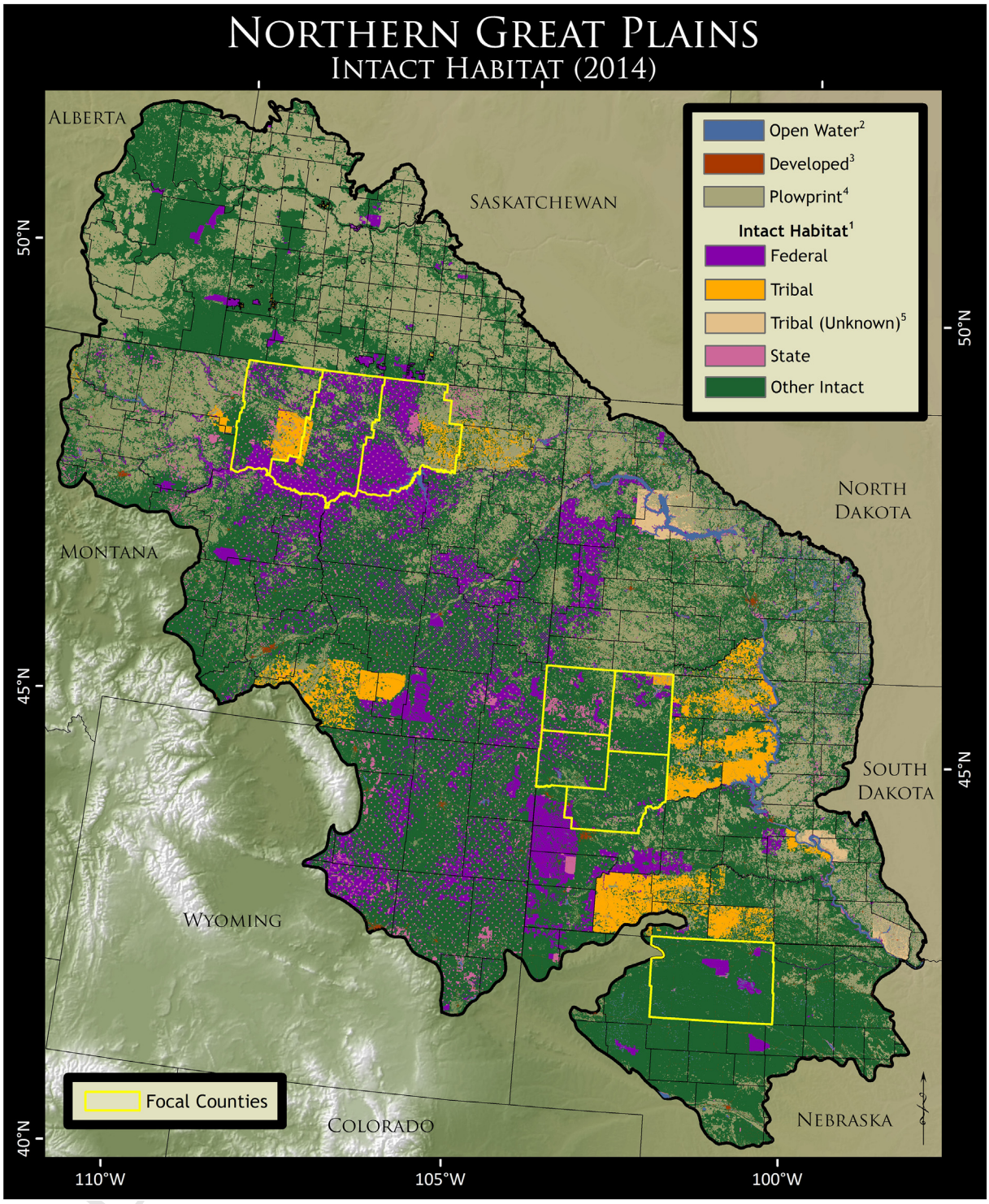

Figure 1. Northern Great Plains, intact habitat and study area. Map by Sarah Olimb, World Wildlife Fund. Intact habitat, as defined by the 2016 World Wildlife Fund Plowprint Report (available online at https://www.worldwildlife.org/projects/plowprint-report), includes those lands that were not in annual crops as of 2008 (in the United States) or 2009 (Canada) and have not been converted to annual crops between 2008 and 2009 and 2016 (or the most recent year of data), and are also not classified as developed, barren, or open water as of 2011 (the most recent data available for these categories). Intact habitat may include: lands that were converted and planted back to grass prior to 2008-2009 (through conservation programs such as Conservation Reserve Program or other private land management decisions); lands that have not been converted since 2008/9 but are not in native cover; lands that have a mix of native and non-native vegetation and are managed to a variety of standards; and lands that have pristine, native cover.

where soil quality and the lack of irrigation supplies have limited the incursion of crop agriculture, stands out as a vital landscape for the ecosystem functions dependent on intact grasslands. While literature suggests that these particular locations make important conservation targets due to their potential for conversion under certain market and policy conditions,[3] the character and implications of land use and land tenure change at the arid, western edge of the NGP remain largely unexamined. Our