

Native Rangelands: A Last Refuge for Grassland Songbirds

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Funding for this project has been provided in part through a Saskatchewan Forage Network Graduate Student Award and the Mitacs Accelerate Program

Many cattle producers and range managers go about their day-to-day activities without giving much thought to the benefits their work has on grassland songbird conservation. However, if it were not for the cattle and ranching industry, the persistence of these small and often-overlooked birds



Native rangeland within the Dixon community pasture

would look much bleaker than it does today. Native rangelands contain much of the remaining native prairie, and development for crop production has made them one of North America's most endangered ecosystem. In Saskatchewan less than 25% of native mixed-grass prairie now remains. As a result, grassland birds are one of the most at-risk bird assemblages in North America and nearly all species have exhibited steep, continent-wide declines over the past half century. In Saskatchewan, there are five grassland songbirds listed as species-at-risk: Sprague's pipit, Baird's sparrow, chestnut-colored longspur, McCown's longspur, and bobolink. It is very likely that more will continue to be added to this list as other species are assessed in greater detail. To put into perspective how important these native rangelands are to species at risk, previous research has estimated that 70% of Sprague's pipits remaining in North America occur on privately-owned grasslands grazed by domestic livestock.

Protecting these species is difficult to manage because each grassland songbird has their own distinct grassland conditions they prefer and grasslands are highly variable throughout Saskatchewan. For example, bobolinks prefer tall, dense grassland types and often adapt more favorably to tame pastures than other grassland specialists. Chestnut-collared and McCown's longspurs are found in sparse grasslands with greater amounts of open bare ground and a lower build-up of litter and dead grasses. Lastly, Sprague's pipits and Baird's sparrow are typically found somewhere near the middle of these two extremes.

The reason such a wide range of grassland birds can exist within the same geographic region relates to the dynamic nature of the Great Plains before it was colonized by European settlers. This region was constantly exposed to periodic disturbances from wildfires and bison grazing and grasslands never remained idle for long periods of time. Therefore, patches of grasslands at different states of re-growth continuously occurred across the prairies.

These forms of disturbance have for the most part been eliminated from the landscape, but similar effects can be created by domestic



Sprague's Pipit

livestock grazing. Grazing is a beneficial and highly adaptable method of disturbance on grasslands that can be used to influence vegetation structure and composition, litter accumulation, and invasion of woody vegetation. The variability in grassland conditions created by livestock grazing has the potential to provide the necessary conditions for the entire spectrum of grassland birds.

My existing research at the University of Regina examines the habitat requirements of grassland songbirds (i.e., the grassland characteristics that influence whether a species can successfully occupy an area or not) for the purpose of establishing habitat conservation targets. During this project I will identify rangeland characteristics that promote the highest abundance of grassland songbirds in prairie Saskatchewan. I also plan to examine how these conservation targets could affect the ranching industry.

My hope is to use this information to develop management targets that promote both wildlife habitat and healthy rangeland systems. The project also links factors that are important to prairie songbirds with range characteristics relevant to the day-to-day management decisions made by livestock producers. This is



Measuring visual obstruction using a Robel pole

important because conservation programs are difficult to establish unless managers and landowners have some familiarity and are willing to lend their expertise in terms of range health and ecology to achieve these goals. The grassland characteristics measured during this project and used to predict songbird abundance, include variables such as

vegetation height and density, percent cover, litter mass, and shrub density. These characteristics are also applicable to range management and could serve as indicators for certain components of range health.

Range health is important to consider because grasslands that are grazed sustainably and provide habitat for these natural communities of plants and animals are more likely to replicate historic conditions that have allowed the prairies grasslands to persist through long periods of drought and shifts in climate.

The overall intent of this project is to improve and maintain the quality of habitat for grassland songbirds, but it is important to also consider the effects that this could have on the ranching industry. Private landowners are generally willing to implement practices beneficial to wildlife as long as they do not experience extensive economic losses in the process. As a result, conservation practitioners rely primarily on incentive-based stewardship programs to conserve grassland habitat. For example, results-based conservation is a growing initiative in Prairie Canada where livestock producers receive funding if their management creates or enhances habitat for species of conservation concern. A critical component of the program is developing meaningful management targets that 1) will enhance and maintain suitable habitat for species of conservation concern and 2) producers can measure and manage for to receive funding once

they achieve those targets. This win-win scenario for producers and conservation agencies will increase program uptake over time and benefit grassland songbirds over a large geographic area.



Bobolink photographed in the Martin grazing co-op

Providing habitat for grassland songbirds does not necessarily have to mean reduced income. Although some pastures are grazed beyond the point of providing valuable ecosystem services and would benefit from reduced cattle numbers, other pastures grazed at lower intensities may actually benefit from an increase in stocking rates by re-creating a more natural cycle of disturbance and resulting in higher quality habitat for wildlife.

Further research into this area of study could provide the scientific backing for some of these management decisions. In contrast to other types of industry, ranching and prairie conservation provide a unique opportunity for collaboration. Many of the same objectives that range managers set to ensure native rangelands are sustainable for continued cattle production also align closely with grassland conditions that are required for the continued persistence of grassland songbirds and other wildlife. If grassland conservation is to have a noticeable impact on the landscape, it is important that conservation groups work closely with the ranching community to spread awareness about the habitat requirements of species-at-risk, but also to set realistic goals that are mutually beneficial to all those involved.