

Grassland Conservation:

Supporting sustainable livelihoods in a critically important ecosystem



Grasshopper sparrow - José Hugo Martínez

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What are grasslands and where are they located?

Grasslands are critically important ecosystems that support biodiversity, carbon sequestration and ranching livelihoods. They are dominated by grass and shrub vegetation and maintained by wildfire, sustainable grazing of livestock and low rainfall. Grasslands occur both naturally and as the result of land use change. Broadly divided into either tropical or temperate, grasslands are located around the world. In North America, the grasslands extending from southern Canada to northern Mexico are known as the Great Plains (Audubon, 2019). The Forest Service manages 3.4 million acres of national grasslands within the Great Plains of the United States. Mexico's portion extends 28.54 millions of acres.



Why are grasslands important?

Grasslands provide invaluable benefits to society, or ecosystem services, including:

- Storing carbon
- Conserving and purifying water resources
- Enhancing biodiversity
- Providing habitat to migratory species and resting places throughout the flyway
- Supporting Sustainable livelihoods, like ranching
- Restoring and conserving soil
- Mitigating the impacts of climate change
- Providing recreational, cultural and spiritual benefits

Key bird species include:

- Baird's Sparrow (*Centronyx bairdii*)
- Sprague's Pipit (*Anthus spragueii*)
- Upland Sandpiper (*Bartramia longicauda*)
- Dickcissel (*Spiza americana*)
- Grasshopper Sparrow (*Ammodramus saviannarum*)
- Bobolink (*Dolichonyx oryzivorus*)
- Lark bunting (*Calamospiza melanocorys*)
- Thick-billed Longspur (*Rhynchophanes mccownii*)
- Chestnut-collared Longspur (*Calcarius ornatus*)



Migratory Birds

Mexican grasslands provide habitat for almost 90% of migratory grassland birds, who travel across the Northamerican Flyway each year. The Bobolink and Upland Sandpiper even travel as far south as Colombia in the Southern Cone Grasslands. These birds spend around 8-months in wintering grounds before returning north to summer in the United States and Canada. Protecting winter habitat in Mexico is essential to species survival in the US.

Supporting sustainable livelihoods: Grasslands and Ranching

Sustainable ranching in grasslands supports local livelihoods while conserving and promoting biodiversity within the ecosystem. Ranching in the American grasslands is a celebrated tradition. Ranchers have long relied on large animals, like cattle or bison, to keep the grasses short and break apart the soil to enhance aeration. Bison, in particular, are endemic to the Great Plains and play an important ecological role in grassland management.

Other important fauna within the grasslands include:

- Bison
- Pronghorn
- Mule deer
- Mexican and Black tailed prairie dogs
- Bolson tortoise
- Golden eagle

Threats to grasslands

Grasslands are disappearing worldwide. In 2020 alone, nearly 1.8 million acres of grasslands disappeared across the Great Plains, contributing to a total loss of nearly 10 million acres across the region since 2016 (WWF, 2019). In northern Mexico, the last 200 years have brought about enormous land conversion as grasslands were plowed under for agriculture, destroyed by unsustainable ranching practices, or dried up under conditions of climate change and dwindling groundwater resources. For migratory grassland birds alone, the loss of grassland habitat has reduced species by 70% since 1970 (Rosenberg, *et al.* 2019).

- Land use change
- Groundwater depletion and aquifer exploitation
- Expansion of agriculture
- Unsustainable ranching and grazing practices
- The spread of invasive plants
- Fragmented habitat
- Impacts of climate change



USFS activities to support grassland conservation

The USFS manages over 3.4 million acres of grasslands within the United States. Many of the migratory bird species found on Forest Service lands also migrate to Canada and Mexico, and for that reason the USFS has worked with partners in Mexico for over 20 years to support conservation and climate resilience activities in these critically important ecosystems. This is achieved by providing technical training and resources for sustainable ranching activities and raising awareness of migratory species habitat. The USFS and ranching partners have discovered a symbiotic relationship between sustainable landscapes and habitat protection—when society takes care of nature, nature provides invaluable benefits to society.

Highlighted Partner Projects:

1. Bird Conservancy of the Rockies (BCOR) conserves over 600,000 high-priority and declining wintering grassland birds from the US and Canada across their full annual cycle.

Since 2012, the BCOR has engaged landowners in northern Mexico to build the Sustainable Grazing Network (SGN) to manage grasslands to preserve and improve wintering habitat for migratory grassland bird species. Today they work with 34 properties around 30 landowners encompassing over 500,000 acres in 4 Grassland Priority Conservation Areas (GPCAs) in northern Mexico.

2. Pronatura Noreste (PNE)'s grassland restoration project improves Bolson tortoise and migratory birds' habitat in Durango's Mapimi Biosphere Reserve

This project uses soil restoration and grassland management techniques to restore 136 acres of degraded grasslands with native grassland plant species. This project also promotes gender equity as native seeds are carefully gathered and germinated by 10 women's collective environmental promoters. The women's collective collaborates closely with local communities to raise awareness of grasslands, and the importance of habitat protection for Bolson Tortoise and migratory species.

3. Cuenca Los Ojos (CLO) is managing grasslands in the Chihuahua's Janos Biosphere Reserve for biodiversity and people

CLO combines bison management, improved ranching infrastructure, and a visitors program focused on restorative ranching and environmental education to conserve the grasslands in the demonstrative site Rancho El Uno inside of the Janos Biosphere Reserve. This 46,000 acre ranch is one of few examples of undeveloped grassland in the Chihuahuan desert.

4. The Northern and Occidental Sierra Madre Natural Protected Areas National Commission (CONANP-NySMOCc) is a Mexican government agency that protects and manages around 988,421 acres of grasslands.

CONANP-NySMOCc connects to landowners within protected areas using a "Conservation Culture" approach that encompasses environmental education, community monitoring, and restoration and management plans to improve livelihoods. USFS-IP is partnering with CONANP-NySMOCc to strengthen their capacities through technical exchanges and the development of the ranching plans in 4 protected areas in the state of Chihuahua.

