Private Lands Stewardship: Implications for Avian Conservation in the West

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Using Science to Inform Land Stewardship

Bird Conservancy of the Rockies has been working to conserve birds and their habitats for 30 years through an integrative model of science, education and private lands stewardship. We monitor bird populations in 13 western states, and Mexico. We have created a Private Lands Wildlife Biologist (PLWB) program to connect bird monitoring to conservation on private lands. More than 70% of land in the U.S. is privately owned, thus private landowner stewardship is vital.

We currently have nine PLWBs in the Intermountain West and two based in Chihuahua, Mexico. They work directly with farmers and ranchers to deliver voluntary, incentive-based conservation programs.

We present three examples of integration of science on working lands.

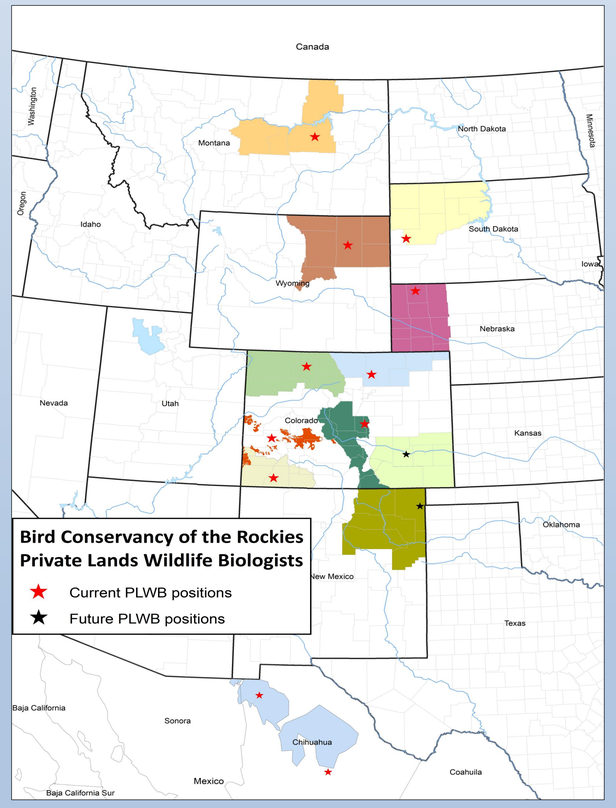


Fig. 1. Locations and areas of coverage for our Private Lands Wildlife Biologists, in the U.S. and Mexico, partnered with federal or state agencies.

Case Study 1: Mountain Plover Conservation on Private Lands

Mountain Plover Conservation has been a model for community-driven conservation since 2001.

- In parts of their breeding range plovers nest on crop fields of Colorado and Nebraska.
- Accidental nest loss during farming operations led to a novel and science-driven “nest-marking” program before cultivation on farm fields.
- Bird Conservancy has worked with more than 400 farmers to maintain profitability and nest success.

Fig. 2. Landowner Outreach Biologist, a 3rd generation farmer, providing training to local farmers on Mountain Plover ecology and identification on farm fields.

Fig. 3. Mountain Plover chick on left, adult with sitting on nest on right, at a “marked” nest both hatched on crop fields.

Case Study 1: Results

- 15 years of nest conservation.
- >1000 marked nests.
- 83% nest survival, 52% chick survival.
- >400 farmers involved.
- >2000 chicks hatched.
- Access granted on 350,000 acres of farmland.
- Local farmer hired as landowner liaison and to increase farmer engagement.

Case Study 2: Grassland Obligate Bird Response to Umbrella Species Management

Lesser Prairie-Chicken (LEPC) has a limited breeding range in the shortgrass prairie ecoregion including working rangelands. We compared how ranches enrolled in Lesser Prairie-Chicken Initiative (LPCI: 2014 US Farm Bill) affected other grassland-obligate songbirds.

Objectives

- Monitor and evaluate LEPC conservation practices for populations of grassland birds.
- Compare ranches enrolled in the LPCI, ranches not enrolled, and Conservation Reserve Program (CRP) land.
- Assess LEPC as an umbrella species for grassland bird management.

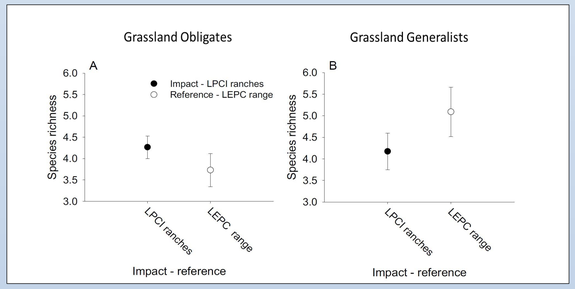


Fig. 4. Data from one year comparing 30 LPCI ranches to 30 reference ranches, grassland obligate birds may prefer ranches management for LEPC over generalist bird species.

Case Study 2: Results

- Density of Cassin’s Sparrow, Lark Bunting and Eastern Meadowlark was greater (2-4x) on LPCI rangelands.
- Density of specialists (species that depend on only a subset of habitats) or generalists (species found in many different habitats) was lower on LPCI rangelands (1-7X).
- Obligate species may increase, while generalists are not as limiting.
- Existence of adjacent CRP land to a LPCI rangeland had positive impact for some species.
- LPCI may serve has positive management for grassland obligate songbirds.

Case Study 3: Habitat Enhancement on Private Lands

Ranchers throughout the West may struggle with drought.

- Research indicates some types of management can create resiliency for future droughts.
- One rancher in eastern Montana is working with our PLWB to implement a rotational grazing system on 16,000 acre ranch for drought management.
- Existing site conditions: soil erosion, degraded vegetation and wildlife habitat poor.
- Rancher is concerned with installing more fencing; disrupting wildlife movements and labor costs. Thus he is rotating his cattle by water access only, no fences.

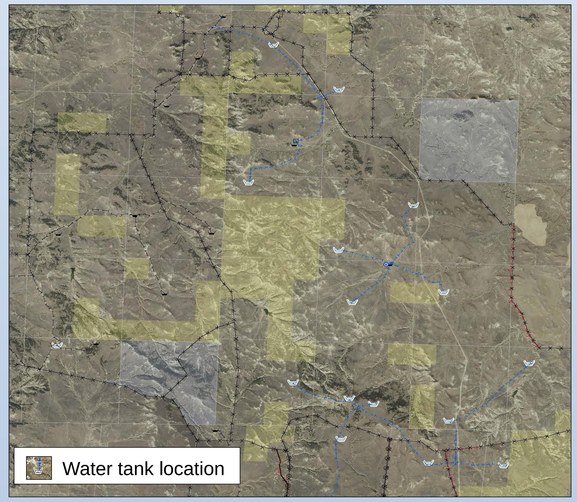
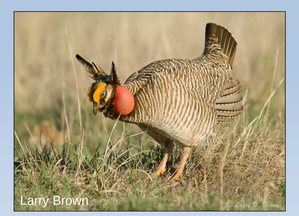


Fig. 5. Layout of a ranch with water tanks (icons) used to rotate cattle. Fence lines represent outer boundary of ranch property.

Case Study 3: Results

- Planned prescribed grazing in 2018 for at least 3 years to improve ranch operations.
- Rotation should improve ranch biodiversity.
- Ranch will be enrolled into an effectiveness monitoring project for grassland bird response to grazing management.



Lesser Prairie-Chicken (*Tympanuchus pallidicinctus*)

Grasshopper Sparrow (*Ammodramus savannarum*)

Conservation Implications

Private land conservation is important for the survival of birds throughout their annual cycle. Our unique conservation strategy in providing a landscape scale bird monitoring program alongside a private lands stewardship program will integrate science-driven management with farmers and ranchers.

Bird Conservancy of the Rockies
Connecting People, Birds and Land

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