

Prairie Pothole

JOINT VENTURE



CARBON STORAGE & BIRD CONSERVATION IN THE PRAIRIE POTHOLE REGION

USFWS

The Prairie Pothole Region (PPR) is one of the richest wetland-grassland systems in the world. It is also one of the most important - and most altered - migratory bird habitats in the Western Hemisphere. These wetland-grassland systems are important components of North America's carbon budget and play a vital role in addressing climate change¹. With nearly 90% of the PPR privately owned for farming and ranching, sustaining healthy bird populations and maintaining bird conservation goals is tied to voluntary, incentive-based conservation and working lands solutions. Wetland-grassland conservation in the PPR provides a win-win-win strategy for the climate, wildlife, and agricultural producers.

Keeping remaining grasslands and wetlands intact is the single most important action for maximizing carbon stocks and sustaining bird populations in the Prairie Pothole Region^{1,2}.

- ▶ The rate of grassland loss and carbon emissions in the PPR rival those of deforestation in the Brazilian Amazon³ - grassland conversion accounts for 87% of carbon emissions from U.S. land-use change³.
- ▶ Today, conversion of grasslands to croplands occurs on marginal soils that result in low crop yields and have high costs to birds, carbon, water quality, soil health, and biodiversity^{2,4,5}.
- ▶ Voluntary conservation easements are effective mechanisms for reducing threats of land-use conversion by keeping large working grasslands intact.
- ▶ Grassland systems of the PPR are resilient carbon sinks⁶. 80% of organic carbon in the PPR is stored in the soil where it is highly stable unless disturbed by tillage².
- ▶ Avoiding the loss of rangelands is a well-established approach to retain soil carbon and sustain biodiversity². Grazing management is effective for maintaining and increasing carbon storage^{2,6}.

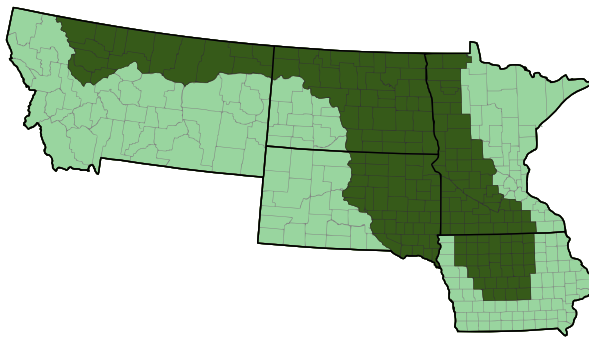
Belowground carbon stocks in temperate grasslands are 150% greater than those of temperate forests⁷. Unlike forests, these belowground carbon stores are protected from fire⁸.

Avoiding conversion on just 10% of PPR grasslands saves the same amount of carbon as removing 2.5 million cars from the road each year⁹.

Restoration in Action

The Conservation Reserve Program (CRP):

- ▶ **Sequesters more carbon on private lands than any other federal program.**
- ▶ **Has produced over 37 million additional ducks in the PPR and made a substantial positive impact on gamebirds and grassland songbirds¹⁰.**
- ▶ **Has provided a net reduction in CO₂ in the PPR equivalent to removing 1.8 million cars from the road annually¹⁰.**



The PPR includes one-third of North America's Prairie Pothole Region (PPR), including portions of Montana, North Dakota, South Dakota, Minnesota, and Iowa.

The greatest potential for increasing soil carbon is through restoration of previously cultivated and degraded lands^{1,2}.

- ▶ In the PPR, at least 60% of wetlands have been drained and up to 95% of adjacent grasslands have been converted to cropland¹, resulting in dramatic carbon losses to the atmosphere.
- ▶ Grassland and wetland restoration is a proven approach to increase biodiversity¹¹, ecosystem services¹², and carbon stocks through sequestration^{2,13}.



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