Effects of the Conservation Reserve Program on Agriculture, Hydrology, and Wildlife in Kansas

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Intro

The Conservation Reserve Program (CRP) is a USDA conservation program that converts environmentally sensitive cropland into perennial vegetation and native grasslands to reduce erosion and improve environmental quality.

As environmental pressures continue to increase across Kansas, interest in CRP has intensified due to its potential to improve soil health, hydrology, agricultural sustainability, and wildlife habitat throughout the state.

Objectives

- To understand the county level distribution and practice of CRP across Kansas. (2020-2025)
- To understand CRP's role in water quality and hydrological functions.
- To understand CRP's role in providing habitat for Lesser Prairie Chicken's.

Methods

CRP enrollment data from 2020-2025 was obtained from the USDA Farm Service Agency and analyzed using:

- Microsoft Excel
- R Studio
- Arc Gis Pro

Statewide and county-level CRP trends were evaluated by:

- Total enrolled acres
- Practice type
- Hydrologic conservation practices
- Wildlife habitat distribution

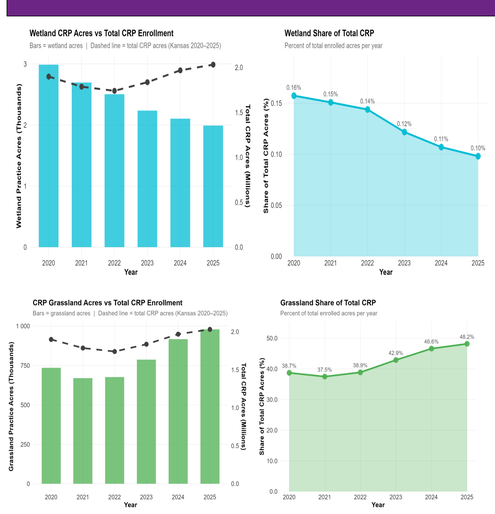
Acknowledgments

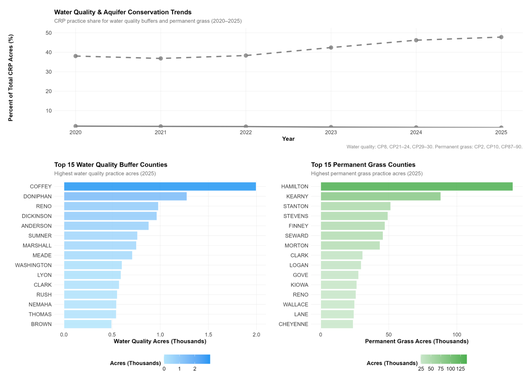
- Manoj Sharma, PhD Candidate, Department of Agricultural Economics
- United States Department of Agriculture, Farm Service Agency

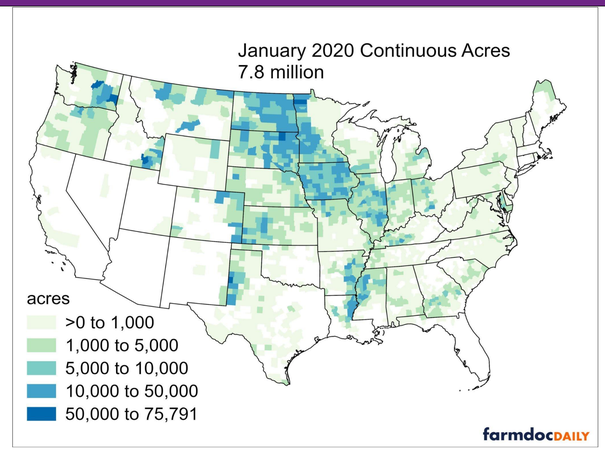
Conclusion

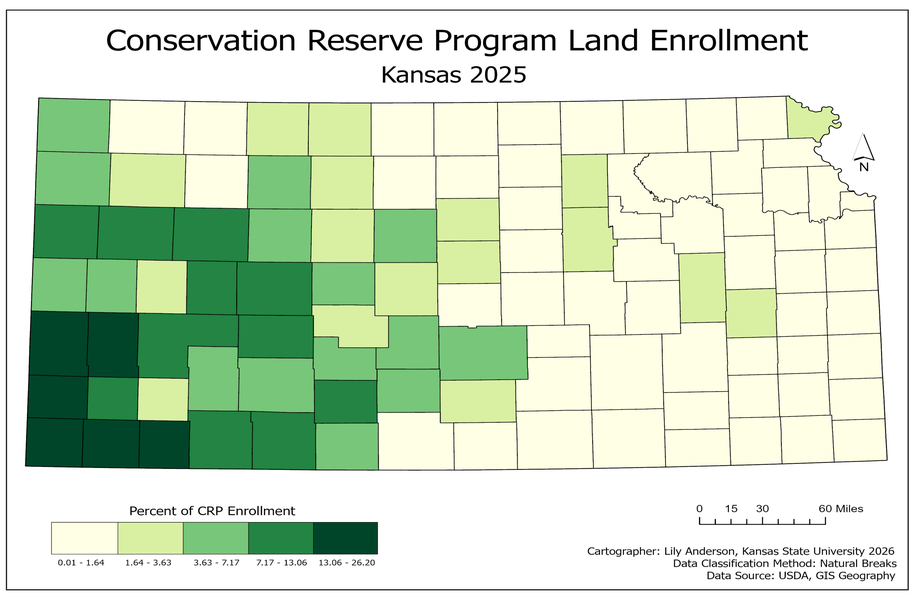
CRP supports soil health, groundwater sustainability, and wildlife habitat across Kansas. As environmental pressures rise, CRP remains important for strengthening long-term agricultural and economical resilience.

Results & Discussions









Agricultural & Hydrologic Findings

- CRP practices improved soil stability, reduced erosion, and supported increased water infiltration
- Grassland systems were associates with stronger hydrologic function and long-term soil productivity
- CRP water quality practices make up a small percentage of total CRP acres; it has little affect at improving hydrological function.

Wildlife Findings

- CRP grasslands provide important habitat for Lesser Prairie Chickens in western Kansas.
- Large connected grassland systems are best at supporting nesting, lekking, and predator detection.
- Habitat fragmentation & woody encroachment remain major threats to prairie chicken populations.
- Cattle grazing can reduce reproductive success and habitat for Lesser Prairie Chickens.
- Wildlife Relevant CRP Acreage: 1.28 million to 1.48 million from 2020-2025. CRP is aligned with grassland bird requirements.