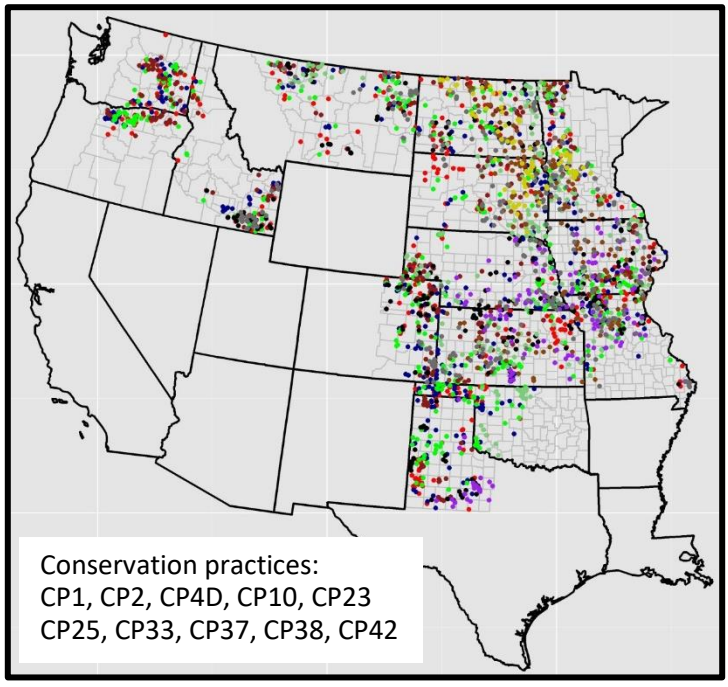
Assessing on-the-ground implementation of conservation practices in CRP fields across the west

Background: The Conservation Reserve Program (CRP) has provided technical and monetary support to farmers for several decades to implement practices that are intended to reduce soil erosion, improve water quality and groundwater recharge, and provide habitat for pollinators and wildlife, among other benefits. There is a need now to understand to what extent these benefits are being realized on the ground by enrolled CRP fields across the western US.

Project goal: The goal of this project was to identify the extent to which 10 different conservation practices had been successfully implemented on the ground in currently enrolled CRP fields across the western United States and were providing the expected benefits for people and wildlife.

Enrolled CRP field, Nebraska (Photo: Mark Vandever, USGS).

Methods: We sampled 1743 currently enrolled CRP fields across all or part of 14 western states, encompassing 10 conservation practices (see map). We conducted edge-of-field surveys in 2016- 2018 to assess vegetation cover, grass management, and erosion indicators on each field. We also conducted in-field vegetation sampling in 2018 to validate our edge-of-field survey results.



Randomly sampled CRP fields across 14 western United States.

Key findings:

- The vast majority of fields have **abundant grass cover** (81% of fields had >50% grass cover).
- Essentially all fields (99-100%) have **zero indicators of erosion**.
- Nearly all fields (91%) have **little bare ground** (<20%).
- Nearly all fields (88%) had at least 5% **forb cover**. Forb cover was particularly high in two practices targeting habitat for upland birds and pollinators (in CP33 and CP42 fields, 20% of fields had > 50% forb cover).
- Most CRP fields have at least 2 forb species present, and **forb diversity** was particularly high on 3 practices that target habitat for upland birds and pollinators (more than a third of CP33, CP37, and CP42 fields have more than 5 forb species present).
- **Noxious grasses** are present on few fields (13%).
- **Noxious forbs** are present on more fields (46%), but generally cover a small area of the field (majority of fields have <5% noxious forb cover)

Conclusions and next steps: Overall there is clear evidence that CRP fields are providing at least minimal structure and cover for targeted species, and have very few erosional features. *These data are preliminary.* Further data collection and analyses are in progress to relate edge-of-field survey results to on-the-ground vegetation sampling, to investigate how vegetation in CRP fields relates to desired conditions identified by the Farm Service Agency, and to evaluate if remotely sensed data can be linked with edge-of-field survey results to assess environmental benefits of CRP land.

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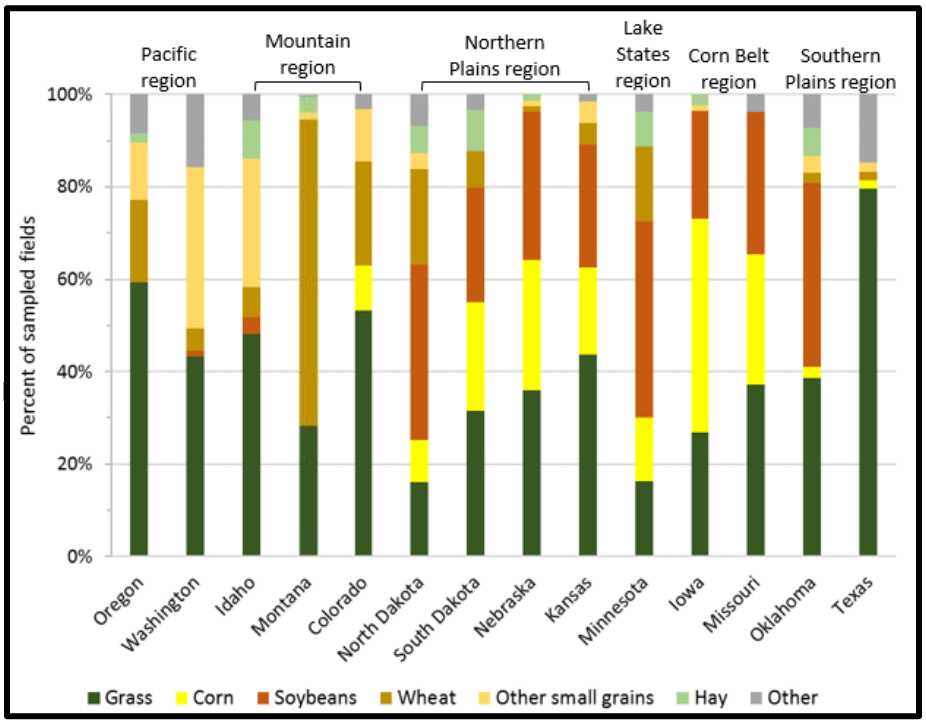
Durability of conservation practices in expired Conservation Reserve Program fields across the west

Background: CRP enrolled acreage has dropped 25% over the last decade, with a proportion of expired CRP land returning to crop production. Farm Bill changes may impact the number of acres enrolled without fully appreciating where expired CRP fields are being converted, and perhaps more importantly, where CRP land persists after contracts expire. It is reasonable to assume environmental benefits persist on expired CRP fields if the cover remains, including if that cover is managed for forage. Failure to estimate persistent, post-CRP benefits could result in USDA underestimating the significance and value of their Program. Understanding where and which ex-CRP fields continue to function as when they were enrolled could also help USDA target conservation practices to provide the greatest opportunity for ecosystem services long after contracts expire.

Expired CRP field, Kansas (Photo: Mark Vandever, USGS).

Project goal: The goal of this project was to identify the extent to which expired CRP fields in the western United States have retained their conservation covers and are continuing to provide benefits for people and wildlife.

Methods: We sampled 1091 previously enrolled CRP fields (expired at least 3 years) in 6 conservation practices (CP1, CP2, CP4D, CP10, CP23, CP25) across 14 western states. We conducted edge-of-field surveys in 2017-2018 to assess existing vegetation cover (e.g., crop type, grass/forb/shrub cover), tillage, irrigation, and grass management.



Vegetation cover on expired CRP fields across the western US (Vandever et al. in prep).

Key findings:

- **44% of expired CRP fields retained >50% cover of CRP vegetation.**
- When fields convert to crops, the **most commonly observed crops** are soybeans, corn, and wheat.
- The vast majority (99%) of expired CRP fields are not **irrigated**.
- **Grass management** is evident on 31% of expired CRP fields with persisting grass.

Conclusions and next steps: Overall there is clear evidence that CRP is providing significant benefits beyond the contract period, with many fields persisting in CRP cover for >3 years after contracts have expired. Further data collection and analyses are in progress to understand environmental and economic factors influencing durability and to quantify differences in vegetation cover between enrolled and expired CRP fields.

Further information:

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