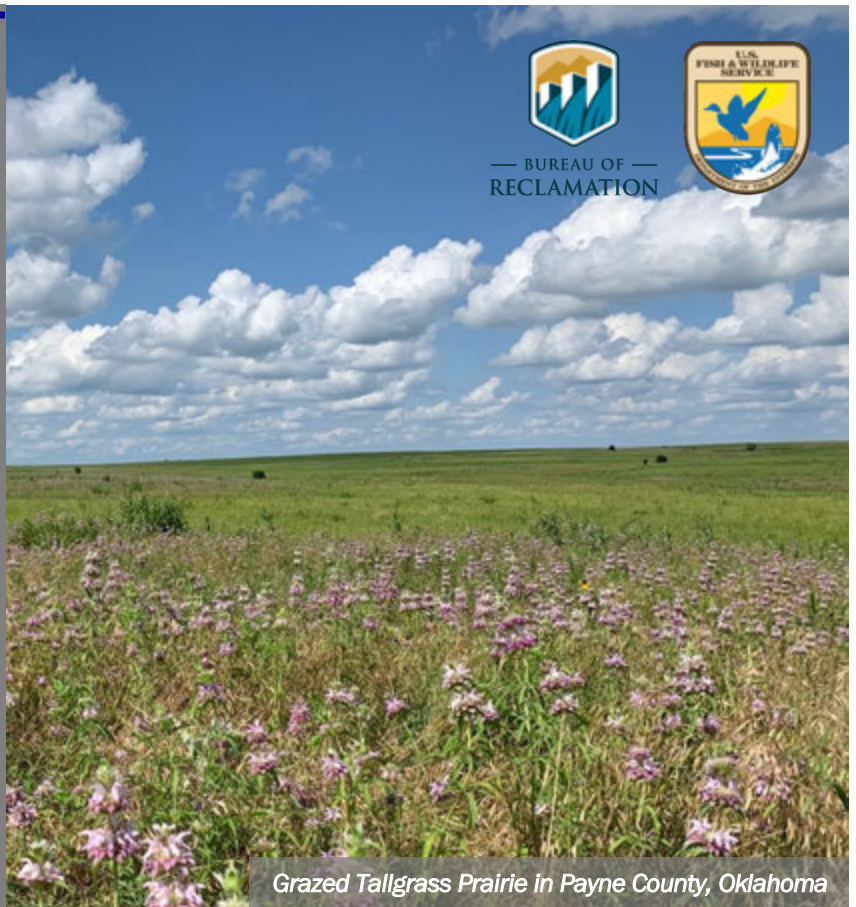
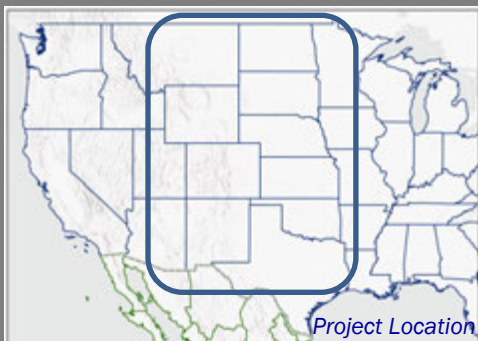


ACTIONABLE SCIENCE

Best Management Practices for Pollinators on Great Plains Rangelands



Pollinators sustain wildflowers that provide forage for livestock and wildlife and support soil and ecosystem health. However, pollinator habitat in rangelands of the Great Plains is declining due in part to an increase of woody plants and invasive grasses, as well as conversion of rangelands to croplands. Landowners need Best Management Practices (BMPs) to help align current land management practices with pollinator health. The Xerces Society for Invertebrate Conservation identified BMPs that provide practical guidance for ranchers to improve pollinator habitat in rangelands of the Great Plains. Local Natural Resources Conservation Service (NRCS) field offices can help implement BMPs to maximize rangeland biodiversity, benefit livestock, and pollinators.



Grazed Tallgrass Prairie in Payne County, Oklahoma

KEY ISSUES ADDRESSED

Common rangeland management practices in the Great Plains—including grazing, prescribed burning, and use of herbicides—can be either beneficial or detrimental to pollinators depending on how they are implemented. For instance, appropriate grazing practices can maintain healthy grasses and increase the abundance and diversity of wildflowers. However, overgrazing can degrade pollinator habitat by reducing the availability of host plants, nesting sites, and floral resources. The lack of information, as well as technical and financial support, for ranchers seeking to align common management practices with the health of the pollinator community has reduced the quality of pollinator habitat in rangelands of the Great Plains.

PROJECT GOALS

- Synthesize information about aligning current management practices with pollinator health
- Identify practices to reduce abundance of woody plants and invasive species without compromising pollinators
- Assess how current herbicide use can be modified to minimize harm to pollinators
- Assist land managers in implementing BMPs on their land through NRCS assistance

LET WILDFLOWERS BLOOM

Rangeland management practices need to allow flowering plants to grow until they bloom to be most beneficial for the health of the pollinator community.



Monarch on a Thistle (Cirsium altissimum)

PROJECT HIGHLIGHTS

Grazing: Using proper stocking rates and allowing blooming plants to recover after grazing is required for grazing to benefit pollinators. Local NRCS staff can help determine stocking and utilization rates that can benefit livestock and pollinators.

Prescribed Fire: Rotating burn seasons and burning a third or less of the managed area each year can give pollinators enough time to recover.

Herbicides: Using targeted instead of broadcast herbicide application to allow native wildflowers to grow freely can help restore pollinator abundance while reducing operating costs.

Woody Plants: The NRCS successfully implemented BMPs that reduced woody plants and restored monarch habitat on a 1,700-acre ranch in southern Oklahoma. The restoration started with bulldozing red cedar trees (*Juniperus virginiana*), followed by prescribed fire, and reintroduction of grazing.

Support Ranchers: Technical and financial assistance for ranchers from the NRCS helps successful collaborative implementation of BMPs.

Success Speaks for Itself: Hearing success stories from fellow ranchers can help increase use of BMPs to conserve pollinators.

Collaborators

- Xerces Society for Invertebrate Conservation
- USDA Natural Resource Conservation Service

CCAST Author: Ariana Porter, February 2022.
Photos courtesy of Ray Moranz/Xerces Society

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Visit CCAST:



LESSONS LEARNED

Many private landowners use herbicides to eliminate wildflowers on their rangeland because they believe some wildflowers, like milkweed, are not palatable to livestock and can even be toxic to them. However, at least one scientific study has shown that cattle tend not to eat milkweed in quantities high enough to cause harm even when it is present. Furthermore, native wildflowers are an important component of livestock diet, and there is little evidence that broad applications of herbicides increase grass production for livestock forage or results in an increase in livestock weight. Using resources for broad scale herbicide use to reduce wildflower abundance may therefore hinder instead of help ranchers' bottom line as well as harm pollinators by reducing wildflowers. Disagreements among Xerces staff from the northern and southern Great Plains regarding BMPs were common because the areas differ ecologically and in management practices. These disagreements ended up being the project's biggest strength because they led to beneficial discussions. Incorporating expertise from diverse geographical areas of the Great Plains was critical. These differences also reinforced the importance of seeking assistance from local experts such as conservationists from local NRCS and/or U.S. Fish and Wildlife Service offices.

NEXT STEPS

- Work with NRCS Plant Materials Centers to publish educational materials about rangeland wildflowers for ranchers, farmers, and the public
- Resume in-person outreach when it is deemed safe in regard to the COVID-19 pandemic

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Ranchers and NRCS Discussing Pollinators in Great Plains Rangeland