

# Grassland Conservation and Restoration

## A DOI Nature-Based Solutions Roadmap Fact Sheet



**Grasslands**, often called prairies in the United States, are habitats where the dominant vegetation type is grass. Grassland habitats are typically maintained through a combination of limited precipitation, fire, and grazing animals.<sup>1,2</sup> Intact grasslands support high levels of biodiversity and have high conservation value due to the numerous benefits they provide. Grassland habitats have been severely degraded in many areas of the world and continue to be threatened by land cover conversion to agriculture, woody encroachment, altered fire and grazing regimes, urbanization, invasive species and climate change.<sup>2,3</sup>

### **TECHNICAL APPROACH**

Grassland restoration typically involves three main steps, though can vary by site:

- **Site preparation:** This creates conditions conducive to native grassland vegetation. Activities may include invasive plant management, addressing soil compaction, managing nutrients, controlling overgrazing, or hydrological restoration.<sup>4,5,6,7,8</sup>
- **Plant selection:** Choosing native plants that will thrive at the project site location. Plant species mixes can be chosen in part based on restoration goals.<sup>4</sup>
- **Revegetation:** Plants will need to be seeded or transplanted at the project site. This can be done in multiple ways, including broadcast seeding, aerial seeding, hydroseeding, drill seeding, or planting established plants by hand.<sup>4</sup>

### **BENEFITS**

#### **Climate Threat Reduction**

- Carbon storage and sequestration

#### **Social and Economic**

- Recreational opportunities
- Reduced erosion
- Agriculture and timber yields
- Cultural services

#### **Ecological**

- Enhanced biodiversity
- Supports wildlife
- Enhanced soil health



Boy Scouts search for invasive species in tallgrass prairie in Minnesota. Photo credit: USFWS Midwest Region.

## SITE SUITABILITY FACTORS

- ✓ Historic grassland sites that have been degraded or converted
- ✓ A natural disturbance regime that limits woody encroachment (or sustained funds to introduce disturbance periodically)
- ✗ Locations where there is a lot of herbicide drift from neighboring crop fields

## EXAMPLE PROJECT

The U.S. Fish and Wildlife Service and partners used rotational grazing practices to restore 11,000 acres of degraded Chihuahuan Desert grasslands in Texas. The site had been damaged by many years of overgrazing, and introducing grazing practices that mimic natural bison movements successfully restored the site. The restoration has brought back native plants, provides forage for grazing animals, and helps prevent runoff and accelerated flows throughout the local watershed.



Cattle on healthy rangeland. Photo credit: [Terrie Wade](#).

## REFERENCES

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## KEY RESOURCES

Title and Link	Site Suitability	Design and Construction	Monitoring Guidance	Example Projects
<a href="#">Restoration Manual for Annual Grassland Systems in California</a>	–	✓	–	–
<a href="#">Restoring Your Degraded Grassland to Conservation Prairie</a>	–	✓	✓	–

## LEARN MORE

Visit the DOI Nature-Based Solutions Roadmap for more information on grassland restoration, other nature-based solutions, and principles and considerations broadly relevant for nature-based solutions projects. The grassland restoration summary includes additional details on each section included in this fact sheet, plus information on operations and maintenance, common barriers, and more resources and example projects.

### Explore the Roadmap



Full Roadmap Document



Grassland Section

[www.nicholasinstitute.duke.edu/roadmap](http://www.nicholasinstitute.duke.edu/roadmap)