



2022 PLOW PRINT REPORT

Plow-up Continues to Destroy Grasslands for Another Year

In its seventh year, WWF's Plowprint Report analyzes the rate of grasslands plow-up across the US, Canadian, and Mexican portions of the Great Plains. This analysis is based off the USDA's annual Cropland Data Layer, the Agriculture and Agri-Food Canada's Annual Crop Inventory, and Sentinel-2 satellite data classified using Google Earth's Engine for Mexico from two years prior to the release date. As a result, the 2022 edition analyzes and reports on plow-up and conversion that occurred during 2020.*

The report shows that while the rate of conversion in 2020 was not greater than the 5-year average in either the Northern Great Plains or Great Plains, nearly 1.8 million acres of grasslands were still destroyed across the US and Canadian Great Plains in 2020 alone, contributing to a total of nearly 10 million acres plowed across the region since 2016. One surprising finding from our analysis is that for the first time since WWF began publishing this report, wheat has surpassed corn as the leading crop driving annual grasslands loss across the entirety of the Great Plains, and not just within the Northern Great Plains.

One of the best mechanisms we have for curbing the destruction of grasslands is policy. That is why this year's report also features several policy-based opportunities and recommendations to help conserve more acres of grassland, including the recently

introduced North American Grasslands Conservation Act and the upcoming 2023 Farm Bill. Both policies offer incentives for voluntary land-owner driven conservation efforts that could result in positive impacts for years to come for the region's rural communities and irreplaceable ecosystems.

THE BIG PICTURE

GOOD NEWS

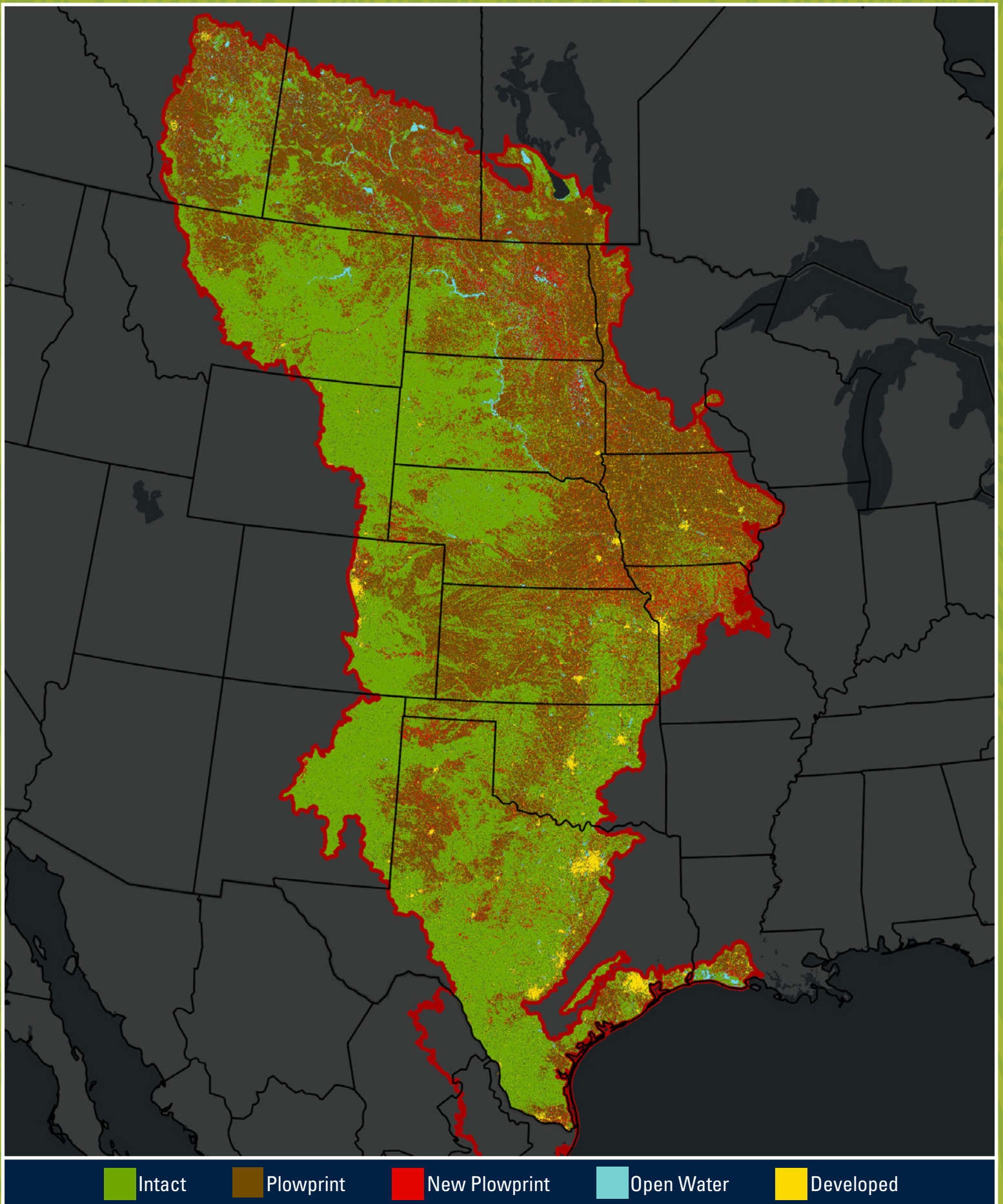
- 2020 grassland plow-up was lower than the 5-year average
- New policy and collaboration offer hope for slowing the rate of grassland conversion across the Great Plains

BAD NEWS

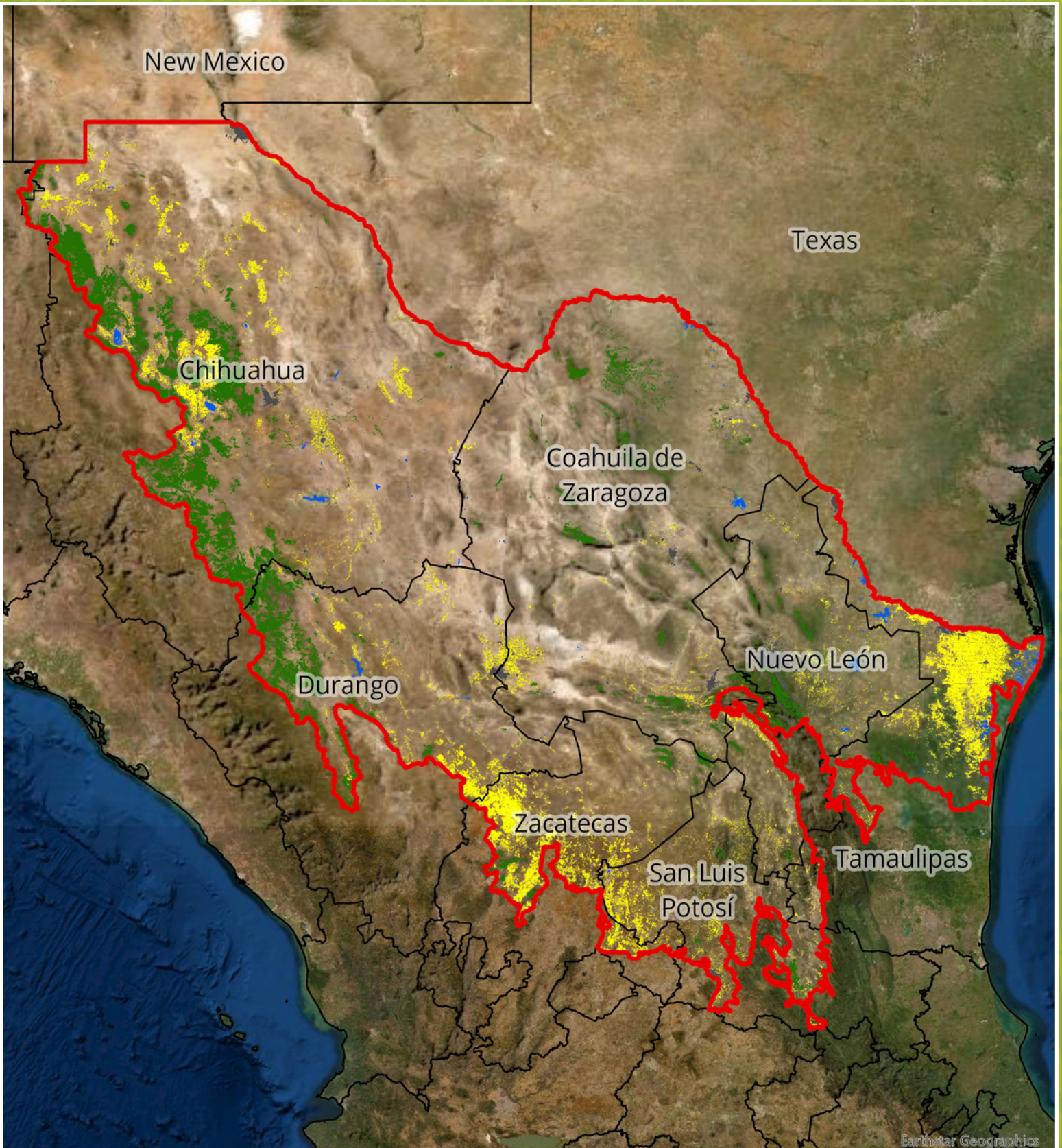
- 1.8 million acres of grasslands were plowed under in the Great Plains in 2020, the year this report analyzes
- 385,000 acres were plowed for cropland in the Northern Great Plains

* Please note that as we strive to improve the accuracy of our analysis, we may make adjustments to figures from previous years.

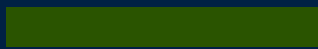
NORTH AMERICA: INTACT GRASSLANDS, PLOWPRINT, AND NEW PLOWPRINT



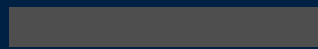
MEXICO: FOOTPRINT OF ROW-CROP AGRICULTURE



Mexico: Row-crop
agriculture (2020)



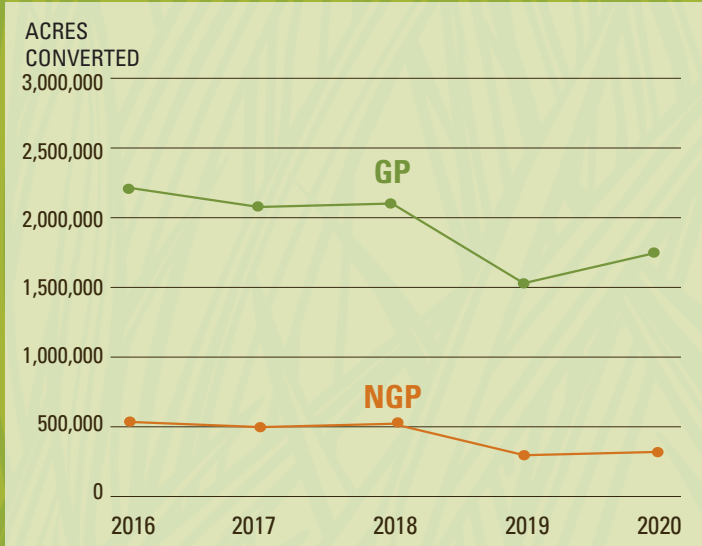
Forest



Urban

PLOWPRINT & THREATS: BY THE NUMBERS

RATE OF GRASSLAND CONVERSION 2016-2020



NO MORE TREES, PLEASE

Compared to plow-up, woody-encroachment (WE) is a lesser-known, but equally harmful threat to grasslands. WE can be defined as the expansion of non-native shrubs and trees (like eastern red cedar) into areas that have historically been grasslands. A study by Jones et al., (2020)* suggests that delayed management of woody plants (attempting to control them only after they have matured and begun producing seeds) has allowed these species to overtake grasslands at a rate that is comparable to plow-up. According to the study, “since 1999, woody plants have increased on more than 108 million acres in the western US, which is an area equivalent to 2.3 times the size of Nebraska.” Although WE is outside the scope of this report, WWF recognizes WE is a significant threat to the Great Plains. USDA has prioritized controlling WE in the Sage Grouse/Sagebrush region adjacent to the NGP. Bringing that same focus and incentive to control WE in the NGP would be beneficial to its future.

*Jones et al., (2020), “Beyond inventories: Emergence of a new era in rangeland monitoring,” *Rangeland Ecology & Management*

INTACT GRASSLANDS, PLOWPRINT, AND NEW PLOWPRINT IN 2020

	TOTAL PLOWPRINT		ANNUAL EXPANSION		INTACT	
	NGP	Great Plains	NGP	Great Plains	NGP	Great Plains
2020	44,316,507	246,204,124	385,314	1,780,830	130,823,088	377,663,614
2019	43,931,193	244,423,293	311,850	1,521,822	131,205,577	379,439,001
2018	43,619,343	242,901,471	543,592	2,021,173	131,514,042	380,440,899
2017	43,075,751	240,880,299	479,966	2,042,849	132,055,825	382,967,933
2016	42,595,785	238,837,449	569,723	2,293,529	132,534,556	385,007,001

Plowprint Rates from 2020 (the year this report analyzes) compared to prior years in the US and Canada. A cropland expansion of nearly 1.8 million acres occurred across the Great Plains in 2020 alone. Please note that as we strive to improve the accuracy of our analysis, we may make adjustments to figures from previous years. In 2022, the CDL re-released the 2020 data which impacted our 2019 estimates of conversion. In addition we have updated our road mask to better account for annual anomalies in the underlying data.

MOST COMMON CROPS ON ACRES CONVERTED IN 2020

GREAT PLAINS

Annual snapshot: This chart illustrates the most common crop types planted in 2020 within the Great Plains. Wheat made up 24.0% of the crops grown on converted acres, followed by soy at 17.4%, and corn at 16.8%.



NORTHERN GREAT PLAINS

Annual snapshot: In 2020, Wheat made up 43.8% of the crops grown on converted acres in the Northern Great Plains, followed by corn at 11.5%, and soy at 4.2%.



Wheat
 Corn
 Soy
 Canola
 Other Crops
 Other Grains

Other crops and grains include: millet, sugar beets, safflower, mustard, rye, potatoes, triticale, buckwheat, vetch, camelina, speltz, grapes, turnips, radishes, onions, aquaculture and other fruits, vegetables, herbs, and small grains.

POLICY & COLLABORATION: HOW DO WE PROTECT GRASSLANDS?

NORTH AMERICAN GRASSLANDS CONSERVATION ACT (NAGCA)

Introduced in July 2022, the North American Grasslands Conservation Act would provide new resources for voluntary, incentive-based conservation of grasslands and establish a strategy for the protection, restoration, and management of grassland ecosystems across North America. Modeled after the successful North American Wetlands Conservation Act, the Grasslands Act would provide voluntary technical and financial assistance to conserve our remaining grasslands, while contributing to climate resilience, rural livelihoods, and wildlife abundance. Visit www.actforgrasslands.org to learn more.



CENTRAL GRASSLANDS ROADMAP

The Central Grasslands Roadmap is a collaborative effort to increase the conservation of North America's Central Grasslands. By bringing together eight diverse sectors—Indigenous communities and nations, province and state-level agencies, industry, private landowners/managers/producers, academia, non-governmental organizations, foundations, and federal governments of the U.S., Canada, and Mexico—the Roadmap identifies common principles and collaborative priorities for the many people and organizations living, working on, and influencing the Central Grasslands. Learn more at www.grasslandsroadmap.org.



2023 FARM BILL

The Farm Bill is among the most significant pieces of legislation for grassland ecosystems, providing the largest source of federal funding for private lands conservation and governing influential food and agriculture programs. With Congress preparing for reauthorization in 2023, the upcoming Farm Bill is a critical opportunity to strengthen and fund key programs that support healthy grasslands such as:

CONSERVATION TECHNICAL ASSISTANCE (CTA)

Funding for CTA provides farmers, ranchers, and forest owners with the tools and knowledge necessary to conserve and restore natural resources on their lands through direct, on-the-ground assistance. Increased funding for CTA can help more producers take full advantage of Farm Bill conservation programs that are consistently oversubscribed. USDA must also ensure that technical assistance providers have up-to-date training and resources to reach today's diverse farming and ranching community and provide them the support needed to adopt the latest in regenerative and sustainable ranching systems.

CONSERVATION STEWARDSHIP PROGRAM (CSP)

CSP is the largest voluntary conservation program for working lands in the US by acreage. CSP offers farmers and ranchers financial and technical assistance to adopt comprehensive, whole-farm conservation systems. The Farm Bill must ensure conservation plans and practices for CSP and other programs incorporate the best available knowledge on sustainable and regenerative farming and ranching systems.

CONSERVATION RESERVE PROGRAM (CRP)

CRP is a voluntary conservation program that provides financial support to farmers who take environmentally sensitive land out of crop production and establish beneficial ground cover. Improved targeting for Grassland CRP could help maximize its benefits for grassland conservation.

SODSAVER

Sodsaver policy helps disincentivize conversion of native sod by lowering crop insurance subsidies on cropland converted from native prairie. However, Sodsaver protection currently only applies to six states. A strengthened and expanded Sodsaver provision in the 2023 Farm Bill could help safeguard remaining grasslands in the United States.

