

PROTECTING GRASSLANDS TO PROTECT OUR ENVIRONMENT

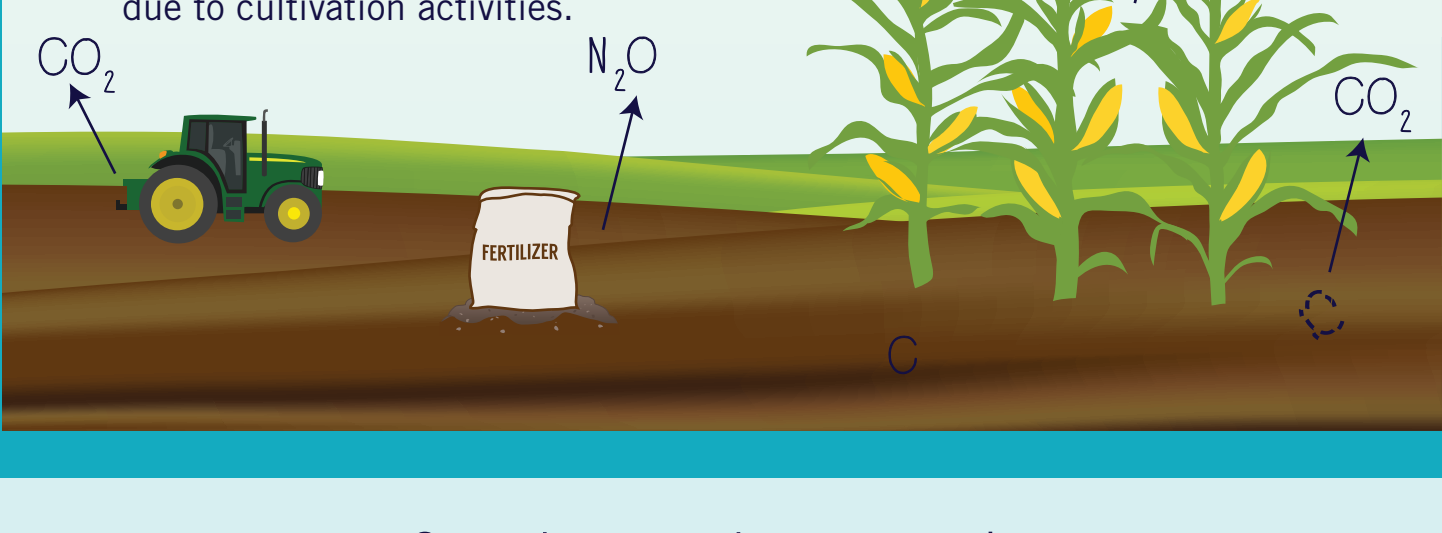
Grasslands are areas of land dominated by grass species that may contain small amounts of other vegetation, such as shrubs, legumes, and forbs. Grasslands have little to no tree canopy.

Grasses and shrubs, through the process of photosynthesis, naturally absorb carbon dioxide (CO₂) from the atmosphere and store the carbon in their biomass (ie plant tissues) and soils.

With sustainable management and protection, grasslands function as sinks and reservoirs in the global carbon cycle.

But, high commodity prices are driving the conversion of grassland to cropland (for food, feed, fiber, and fuels).

When grasslands are disturbed, such as when the land is tilled for crop cultivation, a portion of the carbon stored in the soil and biomass oxidizes and decays, releasing CO₂ into the atmosphere. Emissions also increase due to cultivation activities.



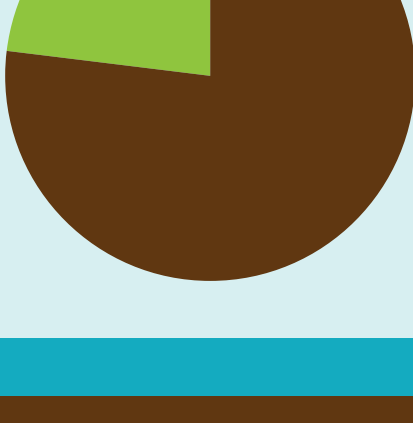
Over the past three centuries

HALF OF THE GRASSLAND

in the U.S. has been converted to other uses, principally cropland



5.7 million acres of grassland - roughly the size of the State of New Hampshire - were converted into cropland in 2008-2012

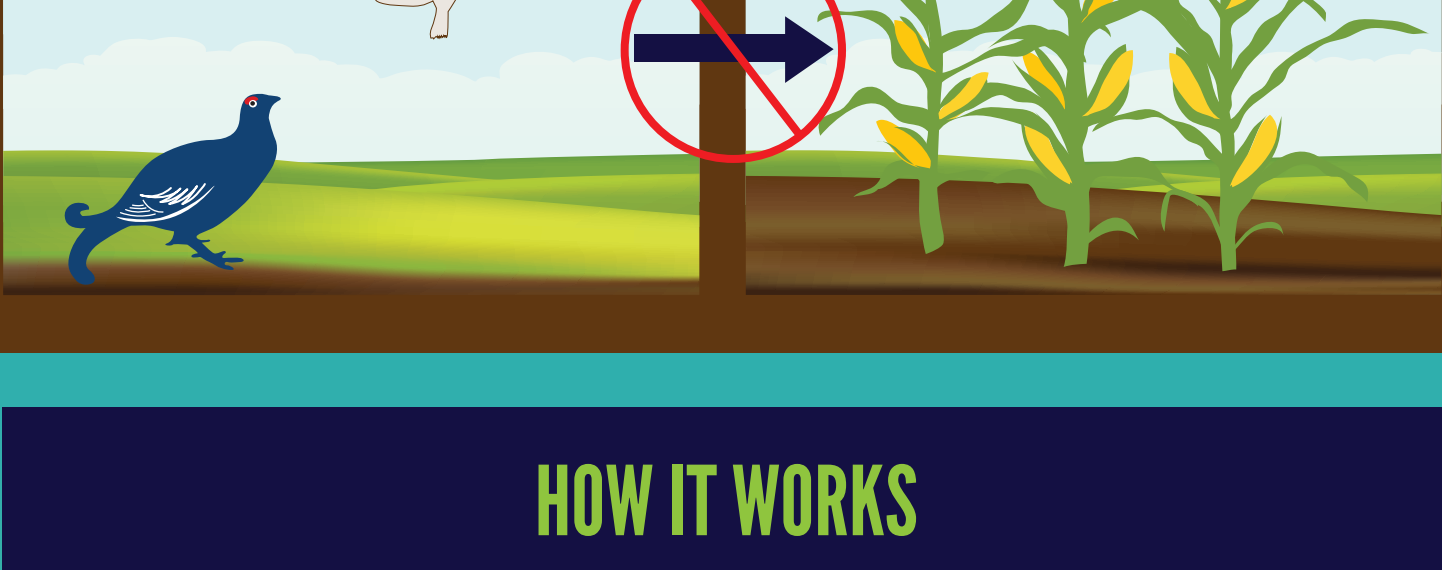


The Climate Action Reserve

GRASSLAND PROJECT PROTOCOL

allows farmers and ranchers to earn carbon offsets for the prevention of GHG emissions into the atmosphere from the avoided conversion of grasslands into cultivated cropland.

The Grassland Project Protocol provides rigorous standards and conservative accounting methodologies to ensure that emissions reductions are real, additional, permanent, verified, and enforced.

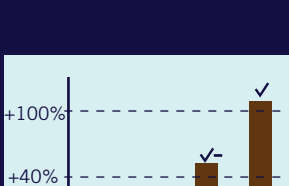


HOW IT WORKS

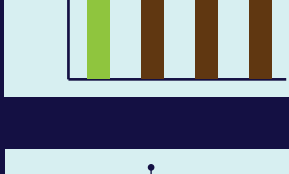


Estimate emissions that would have occurred in baseline conditions (if converted to cropland) and compare to actual project emissions. Baseline emissions factors include the loss of belowground organic carbon through conversion to cropland and the GHG emissions associated with crop production.

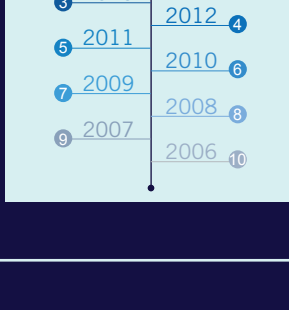
ELIGIBILITY STANDARDS TO ENSURE ADDITIONALITY



Grasslands must meet the threshold for suitability, which is determined using federal land capability classification that denote how well suited the soil is for crop cultivation. Conditions that impact suitability include soil arability, shallowness, erosion, stones, salts, climate, and other limiting factors.

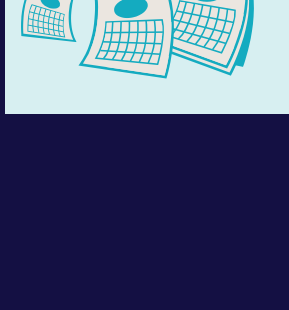


Must meet the threshold for financial additionality, based on the cropland premium, which is the difference of cropland value over pastureland in the county. It denotes the financial pressure to convert. Cropland premiums of 40-100% are eligible with a discount for uncertainty. Premiums over 100% are eligible without the discount.

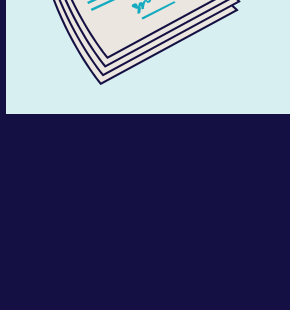


All lands must have been in a documented grassland or pastureland state for at least 10 years prior to project commencement to ensure the validity of baseline soil carbon emission factors.

PROJECT REQUIREMENTS TO ENSURE PERMANENCE



Carbon must be stored for at least 100 years following the issuance of a credit for that emissions reduction. Periodic monitoring reports must document absence of reversals and status of belowground carbon.



Must record a qualified conservation easement on the project area or transfer property ownership to the federal government to maintain the grassland for the protection of soil carbon.

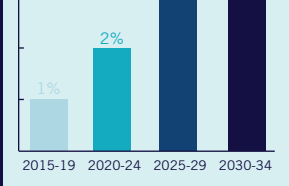
CONSERVATIVE ACCOUNTING STANDARDS



Account for the possibility of leakage, which is when the avoided grassland conversion project results in the conversion of other grassland outside the project area.



Some counties apply a discount factor for the uncertainty of using a standardized test for financial additionality.



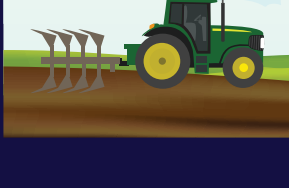
Apply a discount factor for the uncertainty contained within the modeling of the baseline emission factors.



Quantify project emissions that occur as a result of the project activity, including emissions from livestock grazing, prescribed or accidental burning, fossil fuel and electricity use, and organic fertilizer use.



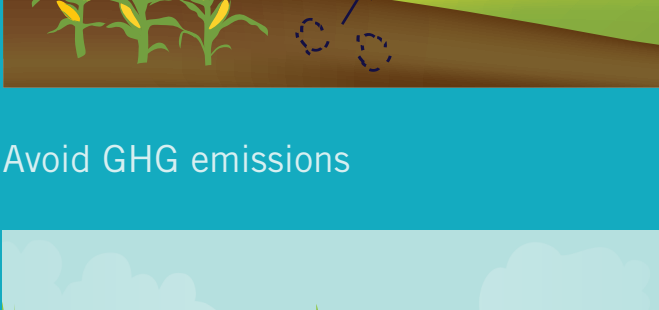
Compensate for avoidable reversals, which mainly occur through land use change.



Contribute to the grassland risk buffer pool to manage the risk of unavoidable reversals that may occur. Credits in the buffer pool are held in trust for the benefit of all grassland projects to be used as compensation for unavoidable reversals.

Benefits of

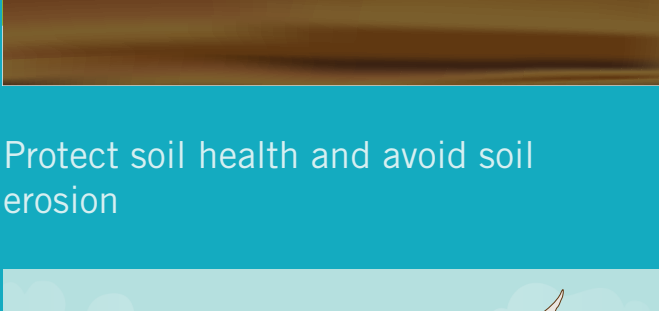
AVOIDED CONVERSION OF GRASSLANDS



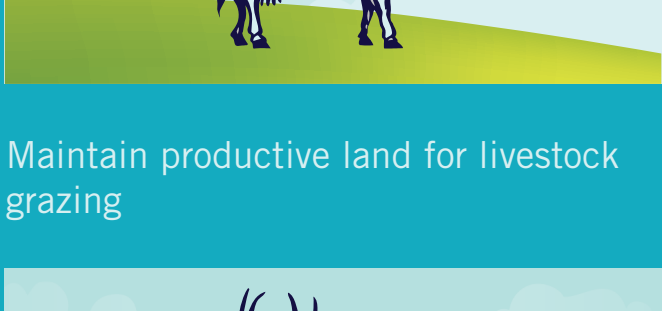
Avoid GHG emissions



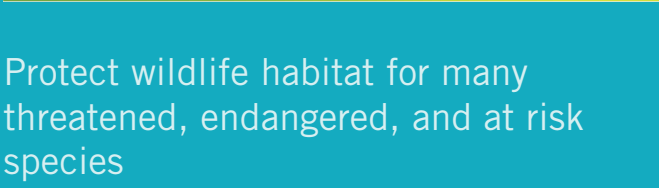
Protect water quality



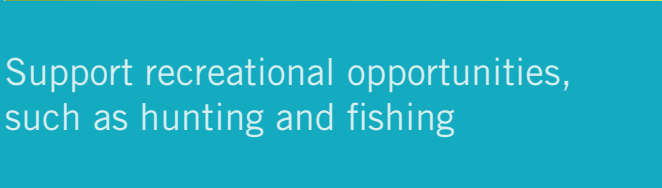
Protect soil health and avoid soil erosion



Maintain productive land for livestock grazing



Protect wildlife habitat for many threatened, endangered, and at risk species



Support recreational opportunities, such as hunting and fishing

Sources:

Climate Action Reserve Grassland Project Protocol <http://www.climateactionreserve.org/how/protocols/grassland/>

Lark, Salmon and Gibbs article: Cropland expansion outpaces agricultural and biofuel policies in the United States <http://iopscience.iop.org/article/10.1088/1748-9326/10/4/044003>

GAO report: Agricultural Conservation <http://www.gao.gov/new.items/d071054.pdf>

