



Accessing Carbon Finance to Protect and Restore Native Grasslands



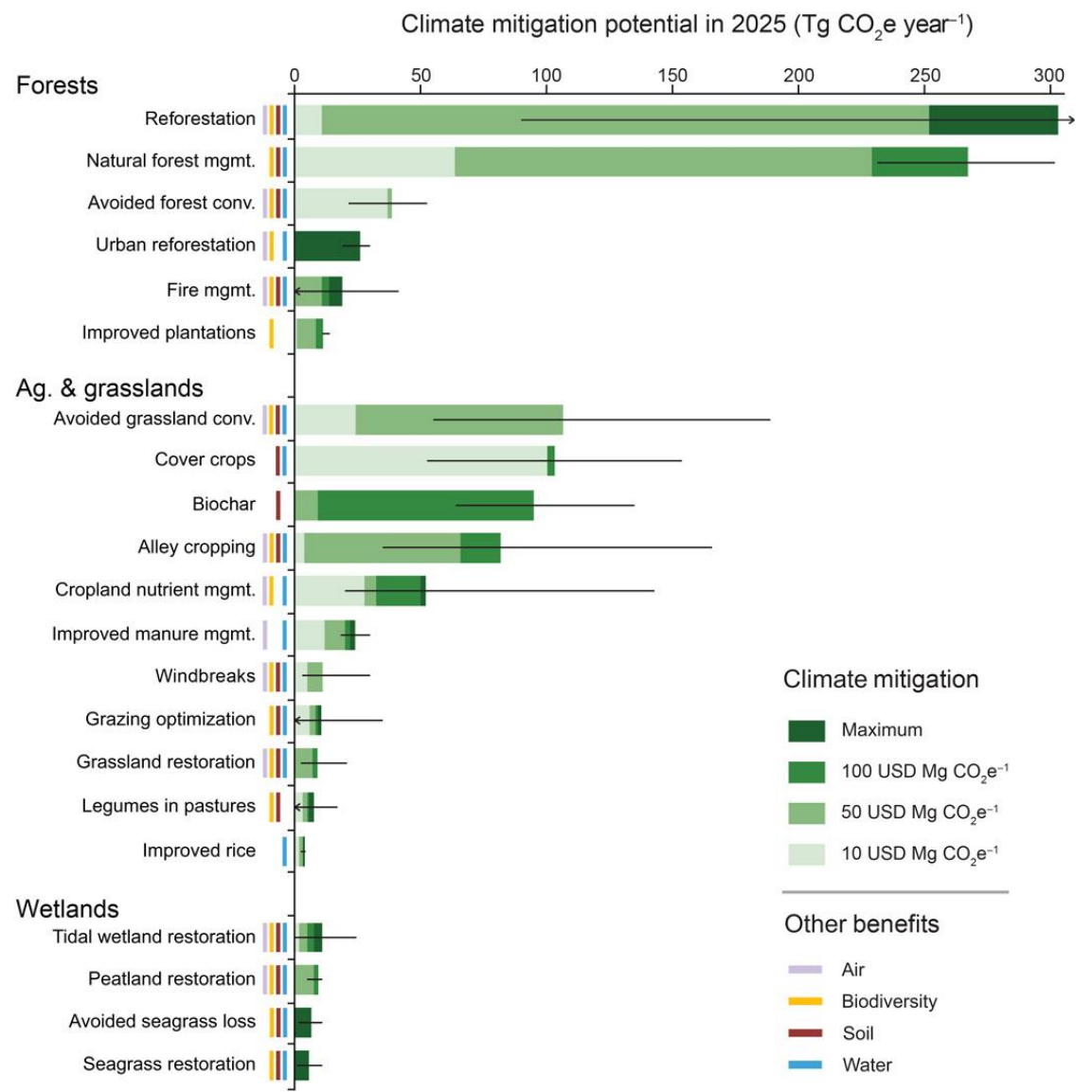
Matt Nespeca
Head of ESG & New Business Models
Bayer Environmental Science





Why are grasslands a focus in climate action?

- North America's grasslands are one of the least protected and most at-risk biomes on the planet
- Every year, over 2 million acres of grasslands are converted to croplands across the US and Canadian Great Plains
- Losses comparable to the clearing of the Brazilian Amazon. (WWF, 2021)
- A 2018 study assessing Natural Climate Solutions in the US identified avoided grassland conversion as the most important mitigation opportunity in US agriculture. Potential to avoid emitting 107 million tones CO₂e/yr. (Fargione et al, 2018)



From Fargione et al, 2018



Rangeland Restoration in the Western US

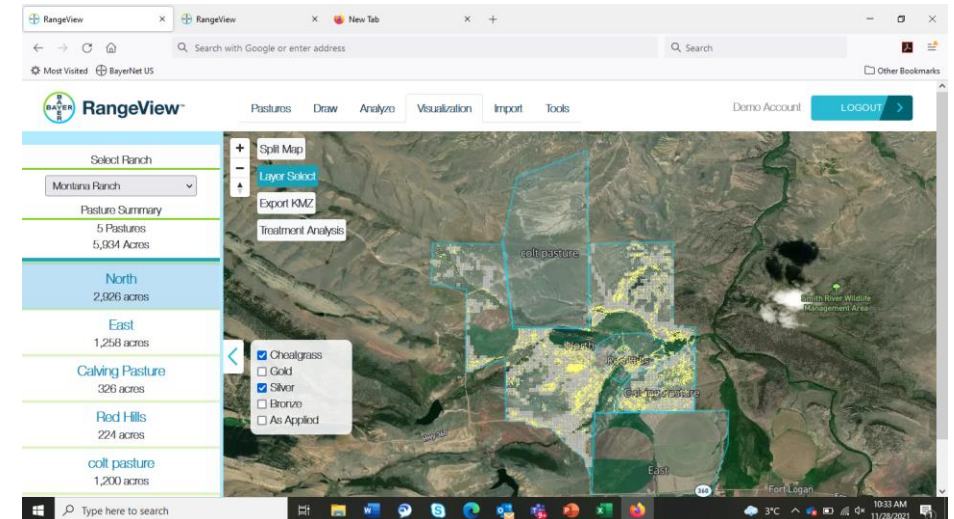
Controlling invasive annual grasses to release native perennials and increase wildfire protection

- Western US landscapes have been overrun by invasive annual non-native grasses like cheatgrass, ventenata and medusahead.
- Invasive annual grasses choke out the native perennial plants, reduce the grazing values and increase the occurrence & intensity of wildfires.
- Bayer Environmental Science has developed a targeted, long-term control program that allows for the restoration of native perennial rangelands.
- Our solution includes Rejuvra® (indaziflam) combined with Rangeview®, a digital rangeland platform for ranchers.



Rejuvra®
29 months after treatment

Untreated





Rangeland Restoration in the Western US

Controlling invasive annual grasses to release native perennials and increase wildfire protection

What is the soil carbon impact of cheatgrass?

- Carbon loss from converting diverse deep rooted perennial systems to shallow-rooted cheatgrass dominated annual systems could be as much as 50% (O'Connor et al, 2021)
- Wildfire occurrence and intensity increases with cheatgrass degradation
- Preventing cheatgrass invasion can avoid soil organic carbon losses

How can we use our solution to attract carbon finance to help ranchers protect and restore native grasslands?



Rejuvra®
29 months after treatment

Untreated



Untreated

Rejuvra®



Carbon Ranchers Project

Accessing Carbon Finance Thru Protecting and Restoring Western Rangeland

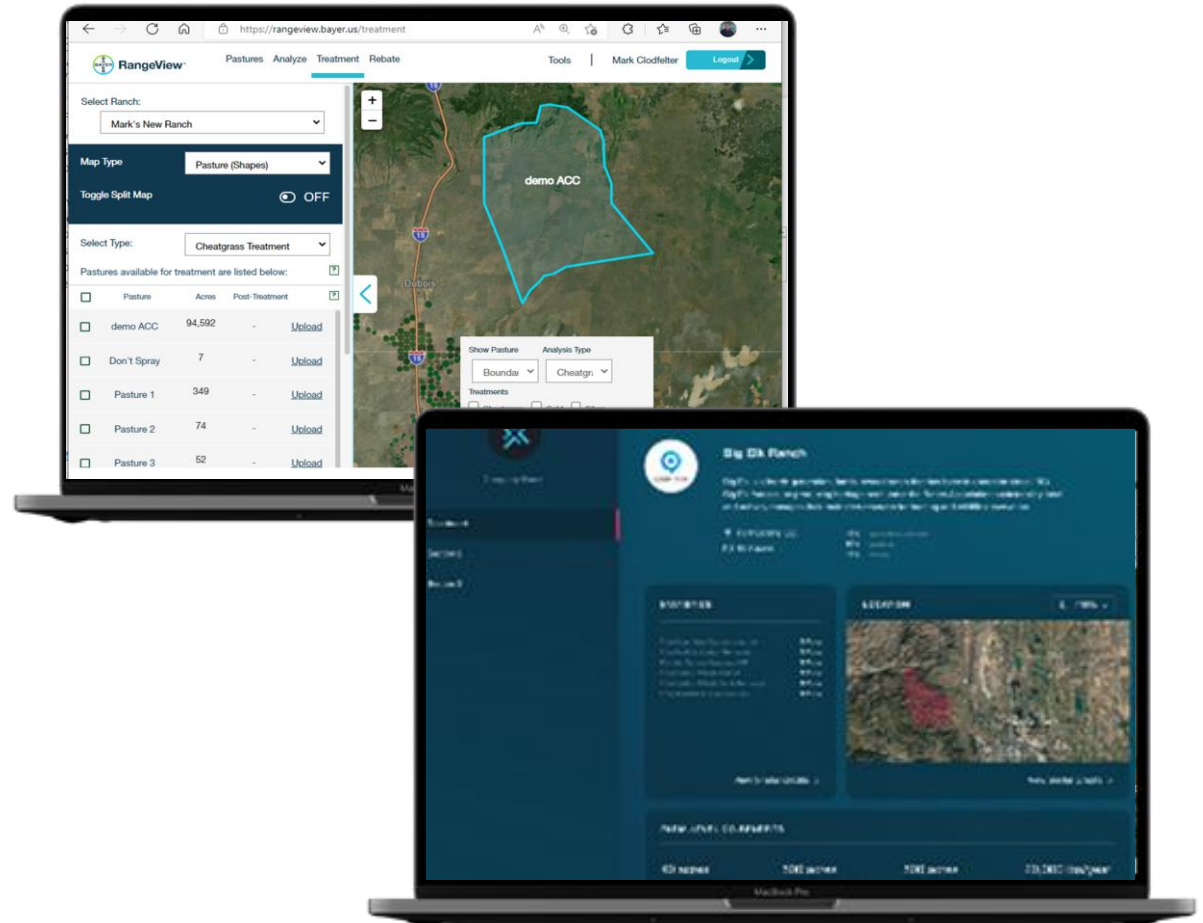
Rancher Problem:

- “Ranching is a low margin business”
- “I need ways to diversify my revenue streams that don’t require a lot of extra labor”
- “Historically, carbon markets have not paid out well for landowners”
- “Carbon projects are expensive and risky”

Our Solution:

We are developing an easy-to-use software platform to help ranchers achieve financial and ecological stability by providing access to carbon investment

...which also helps corporate carbon buyers identify rangeland carbon investments that align to their sustainability narrative





Carbon Ranchers Project

Accessing Carbon Finance Thru Protecting and Restoring Western Rangeland

Step 1

Protecting perennial grasslands

- Emissions avoidance approach
- For ranchers and landowners who are willing to protect their grasslands from conversion to annual cropping
- Climate Action Reserve avoided conversion of grassland protocol
- Rejuvra can deliver added value thru wildfire mitigation
- Rangeview™ can simplify the landowner enrollment, monitoring, reporting and verification processes.

Step 2

Avoiding cheatgrass impacts on grasslands

- A new protocol will need to be developed
- Avoid soil organic carbon losses by protecting grasslands from cheatgrass conversion
- In full alignment with Federal and State cheatgrass control strategies in the West
- Region-wide cheatgrass study to focus on soil organic carbon impacts is underway
- Feasibility study with Viresco Solutions looking at both offsetting and value chain opportunities