

# Bison play role in regenerative agriculture

By: By Miranda Leybourne Local Journalism Initiative Posted: **2:00 AM CDT Thursday, Sep. 29, 2022**

A Pierson-area bison ranch and grain farm is using regenerative agricultural practices to protect the environment and help its herd flourish.

Brooks and Jen White, owners of Borderland Agriculture, located near the community of Pierson, brought bison back to their family farm 20 years ago.

“My project on the farm was to bring livestock in, and I chose to use bison,” Brooks White said.



Long before that, in 1882, Richard and Lorina White homesteaded the area, which was dominated at the time by sandy soils and a sea of mixed grass prairie, where bison herds roamed free. Just 12 years before that, in 1870, Manitoba had joined Confederation with the Great Plains bison on the provincial seal. But by 1888, no wild bison were left in Canada, and the animals that once supported Indigenous communities and the Great Plains grassland ecosystem were nowhere to be seen.

Now, through a grant from the Manitoba Habitat Heritage Corporation (MHHC), the Whites are making the most of their bison herd’s role in regenerative agriculture.

Each year, MHHC invites applications for grants through the province’s Conservation Trust for on-the-ground projects throughout Manitoba that benefit water quantity and quality, wildlife habitat, soil health and nature.

The Manitoba Forage and Grasslands Association (MFGA) applied for the grant in 2020, with the Whites named as the farmers who would implement the project, which sought to convert 160 acres of grainland to a grazing system. By doing so, they wanted to demonstrate how regenerative agricultural practices can improve economic returns to producers while also providing water storage, improved soil health and increased wildlife habitat.

The project was a natural fit, Brooks White said, since not all grainland is always suitable to be farmed as cropland. There were a few areas where the Whites’ grain farm encroached on riparian zones — strips of moisture-loving vegetation growing along the edge of a natural water body — and putting crops on those areas added more stress to the environment and led to fewer productive crops, White said.

“They were better suited to be put back into grass, like they probably always should have been.”

Having always been focused on poly-cropping — the practice of planting several kinds of crop species on the same piece of land at the same time — the project allowed the Whites to seed 160 acres to a perennial pasture, which they then fenced and added a watering system to, installing structure to back-flood areas in the spring to encourage water infiltration and reduce field runoff to prevent downstream flooding.

“The No. 1 [priority] for us when you’re going to seed down grass and turn it into pasture is making sure there’s water there for the animals,” White explained.

Luckily, an existing source was within range of the new pasture, so a pipeline was run below frost-level so water could be brought into the area year round.

Having their herd of bison be able to graze in the area is the key to building soil and improving plant health, White said. The Whites rotate bison and domestic livestock across the farm, where they graze on a variety of forages, perennial pasture, cover crops, crop residue and corn.

Bison, which are physically adapted to winter grazing, produce manure and trample the soil, and that in turn helps to spread nutrients. White said this has helped the farm reduce their fertilizer costs by 75 per cent.

“By maintaining plant cover and moving [the bison] through the farm year round, we are essentially mimicking the ecological system when the bison roamed the Great Plains,” White said.

This regenerative agriculture approach has paid off in changes to the farm’s soil. In fields where the transition was made from annual cropping to grazed perennial pastures, Jen White said she is seeing “significant” changes in dung beetles and earth works in the soil, increased plant production and better water infiltration.

An array of wildlife, from moose and deer to waterfowl, have also visited the farm due to its improved habitat. Since one of the project’s goals was to improve the natural ecosystem for wildlife in the summer months, while stockpiling forage for the bison to graze on in the winter months, seeing a variety of animals on his property has given Brooks White a feeling of success.



It’s important to try to look after what we have, and to us it’s a signal that our farm is moving in the right direction when we see wildlife coming to our farm.”

Seeing bison making a comeback on the Prairies is a positive thing, said Meghan Thomson, Manitoba Habitat Heritage Corporation trusts program manager.

“They’re considered a keystone species in the way ecology works. They provided a lot of benefits in the way that they would graze the grass, which impacted soil health,” Thomson explained. “It’s great to get them back on the landscape to get those historical ecosystems working again.”

The Whites have shown, through the project and their regular farming practices, that they are “outstanding stewards of nature” and of healthy lands, said Duncan Morrison, MFGA’s executive director.

“There’s a whole demographic of farmers that are looking at the principles of regenerative agriculture, especially around soil health. That is what a lot of farmers, such as the Whites ... are pushing for. It’s a really good thing.”

White said that while a lot of his peers are also interested in regenerative agriculture, the mainstream farming world still needs to do more for the environment. One way the average person can help is by supporting businesses like Borderland Agriculture that sell meat and other products that were grown and raised using regenerative agriculture practices.

“The No. 1 thing that will drive change is when people start to want their food produced by regenerative ag practices,” White said.

In addition to Conservation Trust funding, the MFGA Borderland Agriculture project was also supported by Ducks Unlimited Canada, the Souris River Watershed District and Manitoba Agriculture-Ag Action along with significant cash and in-kind contributions from the Whites.

Pierson is located 160 kilometres southwest of Brandon.

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