Canada's Nature Advantage

CASE STUDY

Optimizing returns

Farmers advancing impact and profitability through water stewardship

SOUTHERN MANITOBA, CANADA

Farmers are transforming their role in conservation through water stewardship action on their farms. Farmers in southern Manitoba are demonstrating how their practices produce positive environmental outcomes in their watershed and benefited their bottom line.

DRIVER

Lake Winnipeg, the 10th largest freshwater lake in the world, has deteriorated over the past 50 years due to runoff of nutrients from agriculture, urban developments, and municipal and industrial waste. This has resulted in algae blooms, hinders industrial water use, and restricts recreational enjoyment of the lake.[52] This is costly to the Canadian economy and businesses that rely on the stability in water quality and quantity, notably farmers in the Lake Winnipeg basin.

MECHANISM FOR CHANGE

A collective of Prairie-based organizations, agri-businesses, and four farms covering more than 45,000 acres came together to design a project to demonstrate how water stewardship practices are good for business.[53] An applied research project is helping this collective understand how water stewardship plans and implementation helps create value for farmers, empowering them to tell data-driven stories about their contribution to positive environmental outcomes.

While funding was not the reason farmers joined the collective — it was curiosity in what the impacts of water stewardship would have on their farms and communicating those impacts — companies in the collective are working with participating farmers to test incentive models including a mix of carbon credits and practice incentive payments.

Nutrien, a Canadian fertilizer company, is working with two of the participating farms through their Sustainable Nitrogen Outcomes program. The program generates an outcomes-based payment from GHG emission reductions produced through farmers' improved management of nitrogen fertilizers.[54]

IN THE MAKING

The farmers are implementing practices from their water stewardship plans and working with a research team to value the return on investment for profit, productivity and the environment.

Water stewardship practices were categorized and assessed under two strategies. The first involves practices specifically deployed on croplands, which includes changes in tillage, adoption of precision agriculture technologies, and crop rotations. The second focuses on the enhancement of non-cultivated natural lands on the farm property, such as restoration of marginal farmland, or enhancements to wetlands, hedgerows, and green spaces.

Assessed outcomes from practices adopted in 2023 and 2024 by the four farms, include improved air quality, better soil health, and enhanced biodiversity, which were organized based on public and private good.

IMPACT

Farmers generated, on average, $6,900 per acre of value for the public through ecosystem services such as pollination habitat, soil health, and water filtration and retention. The value returned to farmers, based on carbon market values in the region, was $33 per acre.

> **Water stewardship awareness amongst the farming community has seen tremendous uptake and interest through knowledge sharing events and farm tours.**

There is also a social and economic impact. Water stewardship awareness amongst the farming community has seen tremendous uptake and interest through knowledge sharing events and farm tours.

This project is also inspiring similar landscape-based efforts, driven by water stewardship, in other regions.

$6,900

Generated Per Acre in Public Ecosystem Service Value

$33

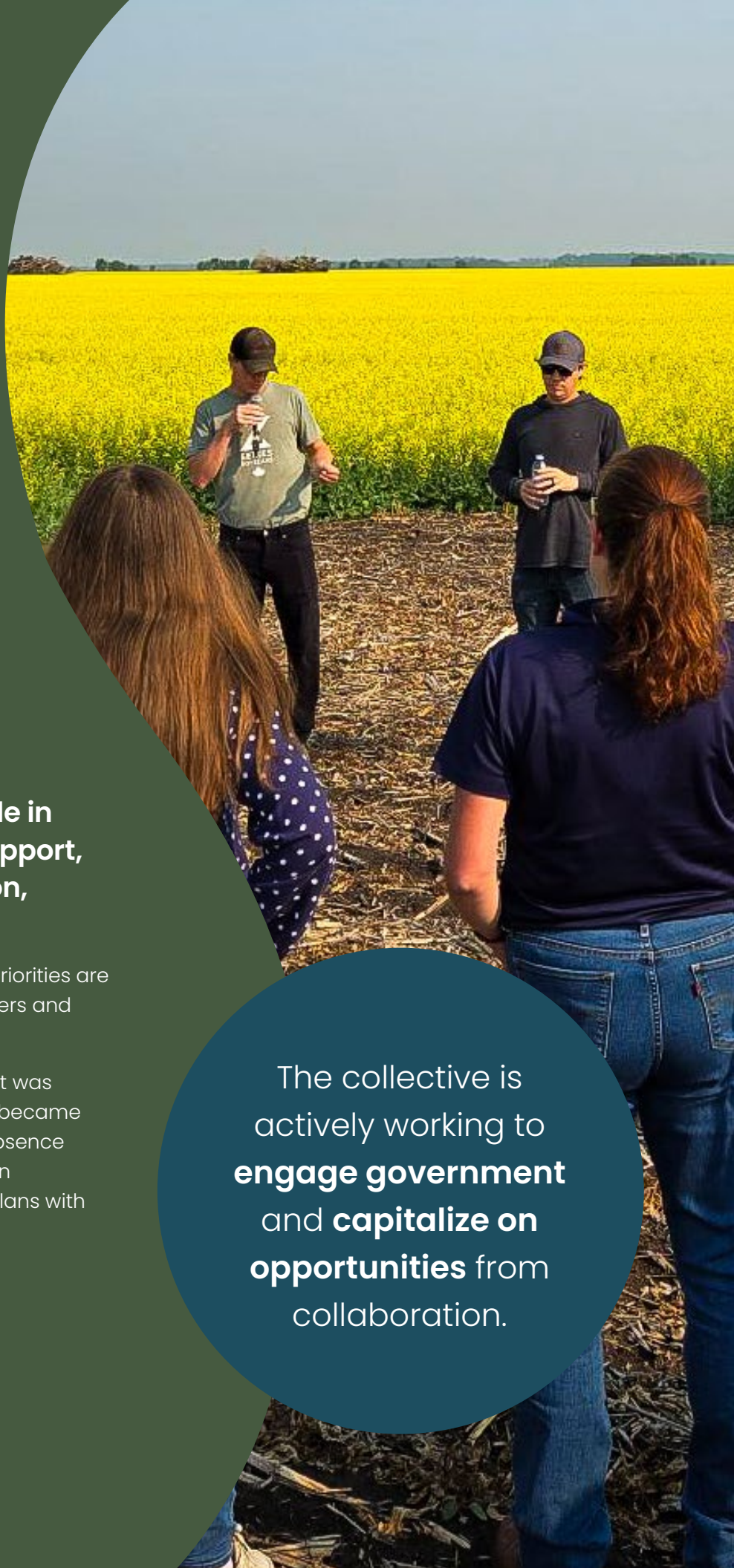
Potential Value Returned to Farmers Per Acre (Carbon Market)

LESSONS

Governments play a key role in a farmers' ecosystem of support, providing funding, extension, and standardization.

However, government timelines and priorities are not always aligned with those of farmers and companies.

Nonetheless, not ensuring government was part of the collective in an active role became a barrier to scaling its impact. Their absence also resulted in missed opportunities in aligning farmers' water stewardship plans with government programming.



The collective is actively working to **engage government** and **capitalize on opportunities** from collaboration.

[52] Environment and Climate Change Canada (ECCC). Progress Report on the Lake Winnipeg Basin Initiative.

[53] Nutrien. Nutrien's commitment to water stewardship demonstrated in Manitoba water project, 2023.

[54] Nutrien. Investing in Sustainable Practices Pays.

Case studies are originally published by RBC Climate Action Institute: **Unearthing Value: How nature can play a critical role in pro-growth agendas.**

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