

2025 Annual Project Report

Project Forest Golden Ranches



Project
Forest

Contents



LAND ACKNOWLEDGEMENT	3
ABOUT US	4
Our Mission, Values and Purpose	4
OVERVIEW	5
UN Sustainability Development Goals	5
Forest Facts	6
2025 ACTIVITY SUMMARY	7
UN SDG 15 - Life on Land	8
UN SDG 13 - Climate Action	10
UN SDG 6 - Clean Water and Sanitation	11
UN SDG 11 - Sustainable Cities and Communities	12
2024 ACTIVITY SUMMARY	14
UN SDG 15 - Life on Land	15
UN SDG 13 - Climate Action	17
UN SDG 11 - Sustainable Cities and Communities	18
UN SDG 6 - Clean Water and Sanitation	18
2023 ANNUAL REPORT	20
UN SDG 15 - Life on Land	21
UN SDG 13 - Climate Action	27
UN SDG 11 - Sustainable Cities and Communities	29
POSITIVE IMPACT	30
UN SDG 3 - Good Health and Well-Being	30
UN SDG 6 - Clean Water and Sanitation	31
UN SDG 17 - Partnerships for the Goals	32
FUNDING PARTNERS	34
REFERENCES	35
APPENDIX A - 2025 Site Survey	36
APPENDIX B - Restoration Overview	50

Land Acknowledgement

| Traditional Territories



Elder Rufus Pretty Young Man of Siksika First Nation

Project Forest acknowledges that our work is conducted on both Treaty and non-Treaty lands. These lands are the traditional territories of First Nations and Indigenous Peoples. We recognize that our work is intertwined with the deep and diverse histories of Indigenous Peoples. We are grateful for the opportunity to work in these territories and are committed to the recognition and respect of those who live or have lived, travelled, and gathered on these lands for time immemorial.

About Us

| Our Mission, Values and Purpose

Rewilding Canada, one forest at a time.

Project Forest is a non-profit organization working in partnership with conservation groups, Indigenous communities and Canadian businesses to make a positive environmental and social impact in our communities through planting forests. The forests we plant clean air and water, increase biodiversity and contribute to the overall health and well-being of our community.



Our work is rooted in our values.

Responsibility

We believe it is our responsibility to use our skills, knowledge, and experience to bring about positive change in the world.

Reciprocity

We recognize that we have benefited from the earth's resources and are committed to giving back through careful and thoughtful solutions.

Humility

We are grateful for the opportunity to learn from nature, to contribute to improving our environment, and to make a positive impact in people's lives.

Transparency

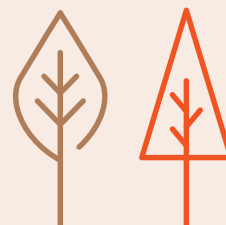
We document, monitor, and share our processes and findings with partners and the public—every step of the way, on every project.

Community

We create spaces where people can connect with nature, and each other. We respect every community we are invited into, and work together to make positive change.

Our Purpose

Inspiring interconnectedness
and hope rooted in
reciprocity and community.



Overview

| United Nations Sustainability Development Goals

Goals to Transform Our World

Planting new forests is critically important in addressing the challenges of our time, particularly when aligned with the United Nations Sustainable Development Goals (UN SDGs). As our communities grapple with climate change and biodiversity loss, forests emerge as pivotal solutions that intersect with multiple UN SDGs including, combating climate change and preserving biodiversity, fostering economic development, ensuring food security, promoting clean water access, and advancing social equity. Aligning the impacts of our forests with the UN SDGs is essential for communicating to stakeholders our dedication to sustainability, transparency, and the measurement of progress over time.

In our 2025 Annual Report, we have linked the outcomes of our rewilding projects with relevant UN SDG targets and indicators, as well as aligned them with corresponding Environment, Social, and Governance goals. This comprehensive approach ensures that our partners have readily accessible information for corporate sustainability reporting, simplifying the process and enhancing transparency.



While the initial Golden Ranches report did not include alignment with UN SDG 17 (Partnerships for the Goals), we have since expanded our reporting framework and added relevant metrics that were not reflected in the original Annual Report. See pages [32](#) and [33](#) for details.

Purpose & Positive Impact

The following UN SDGs are impacted by the Project Forest Golden Ranches:

Purpose



Positive Impact



Overview

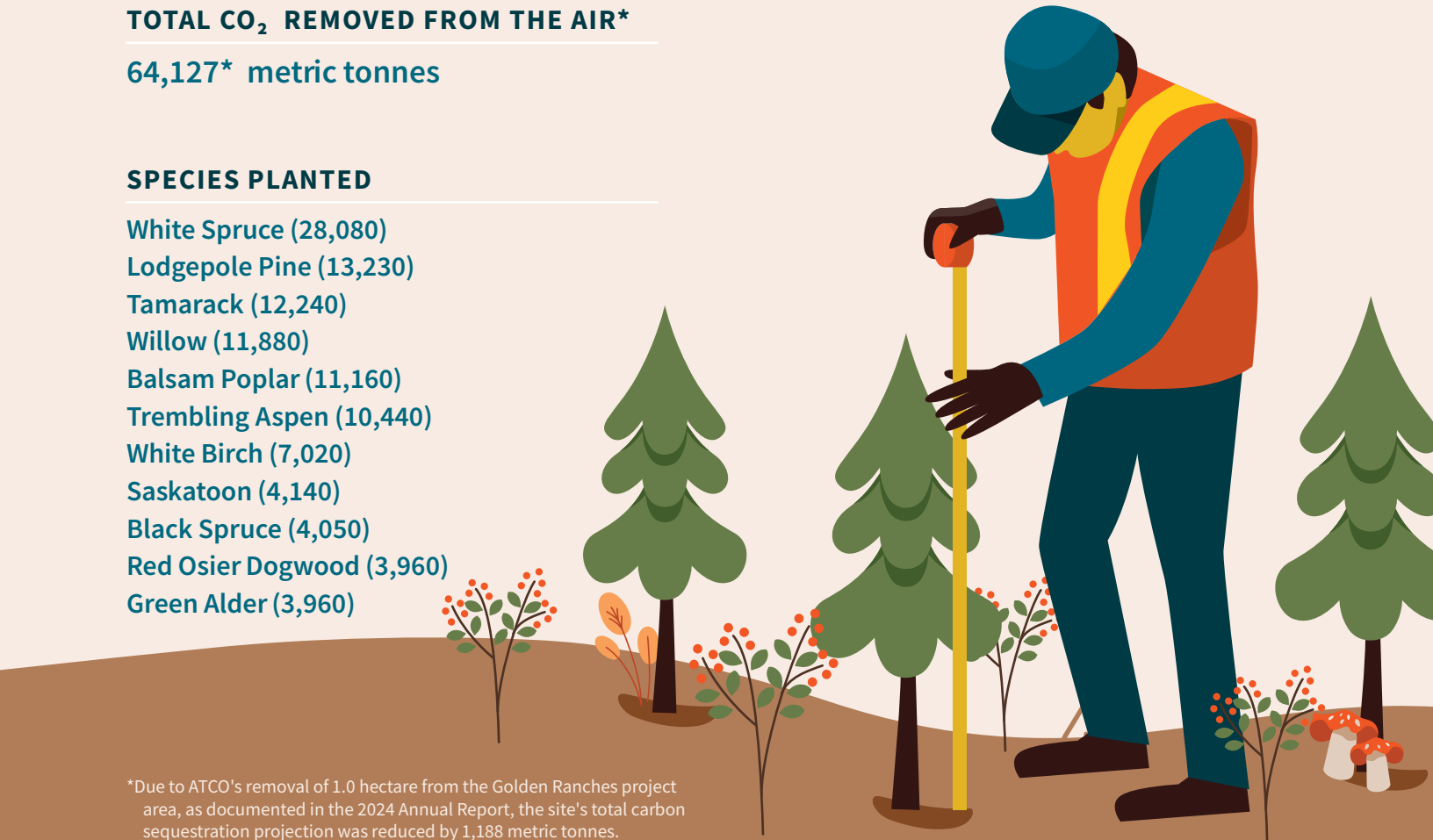
| Forest Facts

About the forest you funded.

NAME	LOCATION
Golden Ranches	Strathcona County, Alberta Treaty 6 Territory 53°25'03.6"N 112°58'11.3"W
DATE PLANTED	SIZE
Summer 2021	55 hectares
TOTAL SEEDLINGS PLANTED	TOTAL SPECIES PLANTED
110,160	11

TOTAL CO₂ REMOVED FROM THE AIR*
64,127* metric tonnes

- SPECIES PLANTED**
- White Spruce (28,080)
 - Lodgepole Pine (13,230)
 - Tamarack (12,240)
 - Willow (11,880)
 - Balsam Poplar (11,160)
 - Trembling Aspen (10,440)
 - White Birch (7,020)
 - Saskatoon (4,140)
 - Black Spruce (4,050)
 - Red Osier Dogwood (3,960)
 - Green Alder (3,960)



*Due to ATCO's removal of 1.0 hectare from the Golden Ranches project area, as documented in the 2024 Annual Report, the site's total carbon sequestration projection was reduced by 1,188 metric tonnes.

2025 Activity Summary Report

Project Golden Ranches

This summary reframes the key findings from the Golden Ranches survey reports through the lens of four relevant UN Sustainable Development Goals (SDGs).



Purpose

| UN SDG 15 - Life on Land

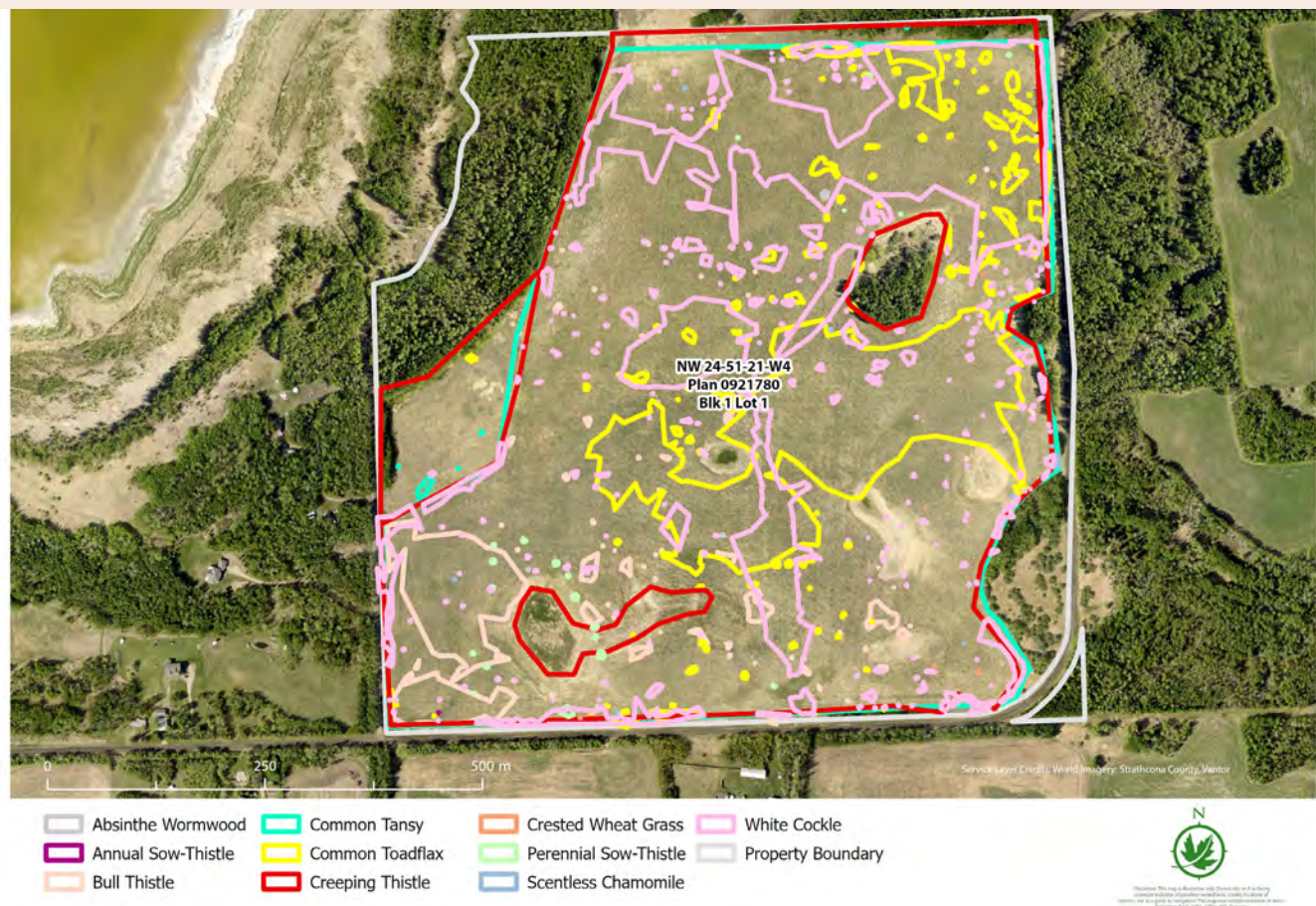
Goal: Sustainably manage forests, combat desertification, reverse land degradation and halt biodiversity loss.



Project Forest is making a positive impact through restoring degraded land to increase forest cover, enhance biodiversity, and promote the sustainable use of terrestrial ecosystems.

The fourth annual monitoring assessment for Golden Ranches was conducted from 23–25 September 2025, surveying 138 plots across 49.7 hectares and showing a strong result that demonstrates the site's continued resilience despite persistent weed pressure. Canada thistle, sow thistle, common tansy, and toadflax continue to compete with seedlings for moisture and nutrients, and invasive species density will be addressed in the 2026 growing season through an additional vegetation management program.

Figure 1: Invasive Species at Golden Ranches Restoration Site in 2025



Purpose

| UN SDG 15 - Life on Land



Each year, an annual weed survey is completed by the Nature Conservancy of Canada (NCC)'s Invasive Species Team. Based on their results, specialists TerraLogix Solutions Ltd. were contracted by Project Forest to undertake an extensive vegetation management campaign in 2025, treating over 254,838 m² through targeted herbicide applications and hand-pulling approximately 830.7 m² of common tansy. These efforts have contributed to a measurable decline in common tansy density, validating the combined approach of cutting and follow-up herbicide application as a viable control strategy. Incidental seedling damage was observed at a number of plots, likely attributable to herbicide drift and UTV traffic during treatment.

Strathcona County has issued a weed management notice for Golden Ranches Area 5, which is the project area. Project Forest and NCC will continue to collaborate closely on an intensified vegetation management strategy throughout 2026.

Table 1: Stocking Summary, Year-to-Year Comparison

Type of Plot	2024		2025	
	# of Plots	% of Plots	# of Plots	% of Plots
Sufficiently Restocked (SR)	97	70.3	105	76.1
Not Sufficiently Restocked - Let It Grow (NSR-LIG)	19	13.8	17	12.3
Totals (SR + NSR-LIG)	116	84.1	130	94.2

Despite the persistent pressure of noxious weed encroachment, no other disturbances have been recorded, and stocking efforts demonstrate an encouraging trajectory toward full establishment:

- 94.2% of plots are acceptably stocked (classified as sufficiently restocked [SR] or not sufficiently restocked – let it grow [NSR-LIG])
- Not sufficiently restocked (NSR) plots have reduced by 10.1%

Purpose

| UN SDG 15 - Life on Land



The reduction in NSR plots is primarily a result of the Project Forest's Corporate Planting program. After elevated seedling mortality was recorded in the first year of establishment, an adaptive strategy was developed where each year's monitoring survey would be reviewed ahead of the following season to identify understocked areas. Corporate volunteers would then be deployed to carry out targeted fill planting in those specific locations. The final corporate planting event at Golden Ranches was held in August 2025.

Amidst the ongoing weed management challenge, Golden Ranches continues to demonstrate meaningful ecological recovery through its growing biodiversity. The presence of common cattail and goldenrod are positive indicators of wetland function, providing essential nesting material and dense structural cover for the diverse bird communities. Horsetail provides valuable forage for moose and deer (Martin, et al., 2011), while fireweed offers a critical nectar and pollen source for bumblebees throughout its long flowering season (Xerces Society, 2011). Together, these indicators reflect a site that is actively developing into a complex and functioning ecosystem.

Golden Ranches is actively developing into a complex and functioning ecosystem.

Purpose

| UN SDG 13 - Climate Action



Goal: Take urgent action to combat climate change and its impacts.

Carbon Capture: The site is currently on track to remove 64,127 metric tonnes of CO₂, as projected in year three

Note: Due to ATCO's removal of 1.0 hectare from the Golden Ranches project area, as documented in the 2024 Annual Report, the site's total carbon sequestration projection was reduced by 1,188 metric tonnes.

24,127

metric tonnes of CO₂ projected to be removed from the air

Positive Impact

| UN SDG 6 - Clean Water and Sanitation

Goal: Ensure availability and sustainable management of water and sanitation for all.



By restoring land into permanently protected forests, Project Forest is using nature-based solutions to ensure clean water access and long-term watershed health for communities across Canada.

Through strategic planting and the integration of forested buffers, land is being fully transitioned into rich, biodiverse soil, abundant in vegetation and active microbial communities. The biogeography of these communities is shaped by vegetation cover, meaning that every native species established on a Project Forest site contributes directly to rebuilding the microbial diversity that makes soils function as natural water purification systems (Fierer & Jackson, 2006).

149.8M

Liters of water accumulation at Golden Ranches in 2025

Rain accumulation for Golden Ranches in 2025 was as follows:

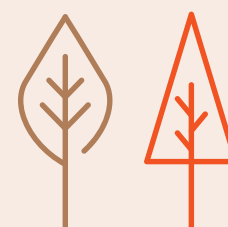
- 272.4 mm of rain $\approx$ 149.820 million litres of water

Table 2: 2025 Golden Ranches Annual Precipitation

Step Description	Formula/Conversion	Rainfall
Area of land	1 hectare = 10,000 m ²	55 ha * 10,000 = 550,000 m ²
Convert Depth to Meters	cm / 100; mm / 1,000	272.40 mm = 0.2724 m
Volume (m ³)	volume = area * depth	550,000 m ² * 0.2724 m = 149,820 m ³
Convert to litres	1 m ³ = 1,000 litres	149,820 m ³ = 149,820,000 l

Total accumulation: 149,820,000 litres

By planting native and ecologically adapted species at scale, healthy, nutrient-stable soils will improve water quality, reduce sedimentation, enhance natural filtration, and increase the resilience of aquatic ecosystems. While planting forests alone cannot solve all water-related challenges, the permanence of Project Forest's protected sites means these hydrological benefits compound over time, making each hectare of restored forest an enduring, self-reinforcing contribution to clean water availability for surrounding communities and ecosystems.



Positive Impact

| UN SDG 6 - Clean Water and Sanitation



As Project Forest does not operate its own weather monitoring stations or gauges, we rely on historical data provided by the Government of Canada. Specifically, we reference the “Past Weather and Climate” database to obtain annual rainfall figures within a 25km radius of each planting site. For the Golden Ranches, the nearest Environment Canada weather station is UNCAS, approximately 10.07 kilometres away. You can find the data [here](#).

Note: The numbers reflected here are for annual rainfall only. While snowfall does create available soil water, the actual number is impossible to verify due to run off and melting events while ground conditions are frozen and trees aren't transpiring.

Why water matters

By planting native and ecologically adapted species at scale, healthy, nutrient-stable soils will improve water quality, reduce sedimentation, enhance natural filtration, and increase the resilience of aquatic ecosystems.

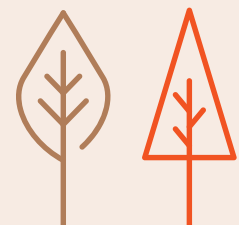
Purpose

| UN SDG 11- Sustainable Cities and Communities



Goal: Make cities and human settlements inclusive, safe, resilient, and sustainable.

Although Golden Ranches is situated in a rural conservation area, the site has meaningfully supported regional sustainability and broader community connection. It is open to the public via [Connect2Nature.ca](https://connect2nature.ca).



Purpose

| UN SDG 11- Sustainable Cities and Communities



Community Engagement and Education

In August 2025, Project Forest hosted Corporate Tree Planting events at Golden Ranches, engaging approximately 80 employees from five partner companies in hands-on ecological restoration work, planting a total of 3,600 one-year-old white spruce. These events provide participants with direct exposure to rewilding practices, fostering environmental awareness and a personal connection to the land being restored.

3,600

Number of white spruce seedlings planted by Corporate Planting volunteers in 2025

Partnership Model

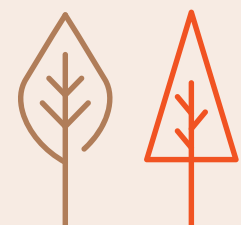
Project Forest's partnership with the NCC brings a dedicated conservation and natural heritage dimension to the rewilding work at Golden Ranches. Situated within a landscape of significant ecological importance, the project area falls within the Beaver Hills UNESCO Biosphere Reserve, a designation that recognises the region's outstanding value as a place where conservation, sustainable land use, and community stewardship are pursued in concert (UNESCO, 2016).

The NCC's broader vision is to weave together a mosaic of forests and open fields that reflects the ecological character of the pre-colonial landscape, while strengthening the green corridor connecting the site to the neighbouring Elk Island National Park.

The seedlot for white spruce planted in 2025 is as follows:

**TT I G333 SO 2011 SW
412A 1+0 (180 box)**

By sharing responsibility for restoration costs and activities, this model ensures that meaningful conservation work can be carried out without placing a financial or operational burden on community resources, demonstrating what collaborative, multi-stakeholder restoration can achieve.



2024 Activity Summary Report

Project Forest Golden Ranches

This summary reframes the key findings from the Golden Ranches restoration reports through the lens of four relevant UN Sustainable Development Goals (SDGs).



Purpose

| UN SDG 15 - Life on Land

Goal: Sustainably manage forests, combat desertification, reverse land degradation and halt biodiversity loss.

The Challenge:

Project Forest conducted its third afforestation monitoring survey at Golden Ranches on October 31–November 1, 2024, assessing 138 plots across 49.7 hectares of rewilded land. The objective was to assess reforestation success and biodiversity.

The Reality:

Survey results indicated that 84.1% of plots (SR and NSR-LIG combined) met acceptable stocking criteria and Project Forest’s internal restoration threshold. 15.9% of plots remained unstocked (NSR), with pockets of damaged or dead seedlings observed due to wildlife, browsing, wet or poor soil conditions, and competition from dense herbaceous cover.

The Context:

This year’s findings confirm that the Golden Ranches site is on a positive rewilding trajectory, with strong establishment of willow, balsam poplar, white spruce, and other native species despite environmental pressures. The results suggest a reasonable likelihood that many currently understocked plots (NSR-LIG) will naturally transition to fully stocked in the coming years. A 1-hectare adjustment was also made to exclude land impacted by ATCO line maintenance from the project area

The Obstacle:

Surveyors reported intense grass competition and widespread noxious weeds across the site. These species limit available light, space, and soil moisture for seedlings, posing ongoing challenges for optimal growth.



16.7% ↑

Increase in site Stocking Rate from 2023

3,240

White Spruce seedlings planted in 2024

Table 1: 2023/2024 Stocking Summary

Type of Plot	# of Plots 2023	% of Plots 2023	# of Plots 2024	% of Plots 2024
Total Sufficiently Restocked (SR)	70	50.7	97	70.3
NSR-LIG Stocking	23	16.7	19	13.8
Not Sufficiently Restocked (NSR)	45	32.6	22	15.9
Total Stocking (SR + NSR-LIG/Total # of Plots)	93	67.4	116	84.1



Purpose

| UN SDG 15 - Life on Land

Table 2: Invasive Species/Weeds List

Invasive Species/Noxious Weeds
Bull Thistle
Common Tansy
Butter-and-eggs
Creeping Thistle
Oxeye Daisy
Scentless Chamomile
Bladder Campion

Next Steps:

In partnership with the NCC, Project Forest is addressing the challenge of reducing populations of noxious weed species. In 2025, control efforts will focus on Common Tansy, Oxeye Daisy, and Scentless Chamomile. Project Forest intends to engage TerraLogix Solutions to execute a targeted herbicide application as part of the site’s vegetation management strategy. The implementation plan and corresponding results will be documented and published in the 2025 Golden Ranches Annual Report.

Wildlife observations

2024 bird surveys completed by the *Nature Conservancy of Canada (NCC)* onsite recorded 22 different species, most notably:

- **Sprague’s Pipit**, threatened
- **Baltimore Oriole**, once listed as sensitive
- **Sora** (Porzana Carolina)

Sprague's Pipit



22
Bird Species Recorded

Purpose

| UN SDG 13 - Climate Action

Goal: Take urgent action to combat climate change and its impacts.



By restoring forest ecosystems, this project contributes to:

Monitoring Disturbance: According to the Project Forest Monitoring Program, any areas affected by wildfire, insect outbreaks, or industrial activity will be excluded from the afforestation project.

Ongoing ATCO utility maintenance along the southern and eastern site boundaries (see Figure 1), necessitated the removal of one hectare from the rewilding project.

CO₂ Removal: The site is currently on track to remove 64,127 metric tonnes of CO₂ compared to 65,315 the prior year, due to ATCO maintenance.

64,127

Metric tonnes of CO₂ projected to be removed from the air.

Figure 1: Golden Ranches 2024 Survey Fill Plant Area



Purpose

| UN SDG 11 - Sustainable Cities & Communities

Goal: Make cities and human settlements inclusive, safe, resilient, and sustainable.



Though situated in a rural conservation area, the Golden Ranches project supports regional sustainability and community connection through:

- **Community engagement and education:** 5 partner companies with 100 employees took part in our 2024 Golden Ranches Corporate Tree Planting Events.
- **Partnership model:** Collaboration with NCC, Project Forest, conservation organizations, and residents exemplifies inclusive and sustainable land-use planning.

100

Employee partners took part in our 2024 tree planting

Purpose

| UN SDG 6 - Clean Water and Sanitation

Goal: Ensure availability and sustainable management of water and sanitation for all.



While this SDG is not a direct focus, there is one important area of overlap: **Wetland restoration.**

Note: The numbers reflected here are for annual rainfall only. While snowfall does create available soil water, the actual number is impossible to verify due to run off and melting events while ground conditions are frozen and trees aren't transpiring.

- In 2019, ditch plugs were installed to restore historically drained wetlands. These wetlands support groundwater recharge, flood mitigation, and **habitat for sensitive animal species.**
- Roughly **263,120,000 liters of rainwater** accumulated at the Golden Ranches planting zone in 2024.

263M

Liters of water accumulation at Gold Ranches in 2024

Purpose

| UN SDG 6 - Clean Water and Sanitation



As Project Forest does not operate its own weather monitoring stations or gauges, we rely on historical data provided by the Government of Canada. Specifically, we reference the *"Past Weather and Climate"* database to obtain annual rainfall figures within a 25 km radius of each planting site. This data can be found [HERE](#).

Figure 2: 2024 Golden Ranches Annual Precipitation

	Step Description	Formula/Conversion	Rainfall
1	Area of land	1 hectare = 10,000 m ²	55 ha × 10,000 = 550,000 m ²
2	Convert Depth to Meters	cm ÷ 100; mm ÷ 1000	478.4 mm = 0.4784 m
3	Volume (m ³)	Volume = Area × Depth	550,000 × 0.4784 = 263,120 m ³
4	Convert to Liters	1 m ³ = 1,000 liters	263,120 × 1,000 = 263,120,000 liters
Total Accumulation = 263,120,000 liters			

Soils with high biodiversity—characterized by diverse vegetation and active microbial communities—function as natural filtration systems, enhancing the quality of infiltrating rainwater and snowmelt. In contrast to monoculture agricultural soils, which are typically compacted and exhibit low microbial diversity, biodiverse soils demonstrate superior capacity for water infiltration, retention, and purification.

As reforestation progresses, soils gradually shift from agricultural to forest profiles, marked by increased organic matter, improved structure, and changes in microbial communities. These developments enhance ecological function by promoting cleaner groundwater recharge, reducing surface runoff, and supporting more resilient and sustainable watershed hydrology. (Tiquia, et al)

2023 Annual Report

Project Forest Golden Ranches

The Golden Ranches project stands as a multidimensional sustainability initiative. Through continued monitoring, adaptive management, and collaboration, Project Forest and our partners are creating tangible, lasting impacts across several pillars of the 2030 UN SDG Agenda.



Purpose

| UN SDG 15 - Life on Land

Goal: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

Matching ESG Goals:

- Providing clean air and water.
- Improving biodiversity.
- Re-establishing traditional landscapes.



Project Forest is making a positive impact through restoring degraded land to increase forest cover, enhance biodiversity, and promote the sustainable use of terrestrial ecosystems.

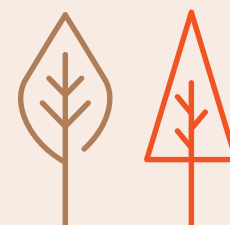
Indicator 15.1.1: Forest area as a proportion of total land area.



110,160

Seedlings Planted

Project Forest Golden Ranches has increased forested area in the Beaver Hills UNESCO Biosphere Reserve, in the Golden Ranches Conservation Area in central Alberta. A total of 110,160 trees in 11 different species were planted on 55 ha of former agricultural land in July 2021.



Purpose

| UN SDG 15 - Life on Land



Afforestation Survey at Project Forest Golden Ranches

The results of our first annual survey at Golden Ranches published in our 2021-2022 Annual Project Report indicated that the site was deemed to be 79% stocked. A fill plant was recommended in four areas that covered approximately 8.5 ha as these areas were documented as Not Sufficiently Restocked (NSR). The recommended fill plant occurred in all four NSR areas in September 2023.

The survey results from the Fall 2023 Afforestation Survey (Appendix A - Afforestation Survey) at Golden Ranches found an average total stocking rate (SR + NSR-LIG) of 67.4% (Figure 1), a decrease of 11.6% in tree survival from 2022.

There are several areas that have been identified to be considered for a fill plant (Figure 2). Due to high grass competition, the increase in observed NSR areas may be due to increased difficulties assessing the plots, specifically locating trees in the tall grass. It is recommended that additional survey data be collected to verify results. The survey confirmed that the weed issues on site continue. However, the Nature Conservancy of Canada (NCC) is proactively working on managing the weeds on site.

Figure 1: Acceptable Stocking Summary

Type of Plot	# of Plots	% of Plots
Total Sufficiently Restocked (SR)	70	50.7
NSR-LIG Stocking	23	16.7
Not Sufficiently Restocked (NSR)	45	32.6
Total Stocking (SR + NSR-LIG/Total # of Plots)	93	67.4

67.4%

Tree Survival Rate

138

Plots Sampled

NSR-LIG is an abbreviation of “not sufficiently restocked - let it grow”. The NSR-LIG status is applied to plots where under-height trees are left to grow with the expectation that this treatment will be sufficient for them to meet the SR standard at the next annual monitoring survey.

Purpose

| UN SDG 15 - Life on Land



Indicator 15.1.2: Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type.

Project Forest works with conservation groups to rewild areas of high conservation value. We transition degraded land owned and managed by conservation groups into species-rich forests that increase biodiversity, create habitat, and clean the air and water.

Project Forest Golden Ranches is owned and managed collectively by the Nature Conservancy of Canada (NCC), the Alberta Conservation Association (ACA), the Edmonton and Area Land Trust (EALT) and the Alberta Fish and Game Association (AFGA). It is located in the Dry Mixedwood Forest Natural Subregion of the Boreal Forest Natural Region.

11

Species Planted



“Restoration projects are no small feat and it takes a village to raise a seedling. The vision and support of Project Forest is helping to re-establish mixedwood forests in the heart of the Beaver Hills Biosphere, to the benefit of songbirds, pollinators, ungulates, carnivores and people.”

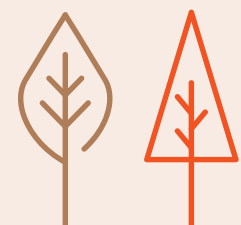
—**Delaney Schlemko**, Natural Area Manager at The Nature Conservancy of Canada (NCC)

The 2023 survey data shows that desirable natural vegetation is returning to the site. Foxtail barley, horsetail, common yarrow, goldenrod, silene, and various grasses are present in the area and are an indication of natural regeneration on site. This increase in desirable vegetation is likely due to improved soil and growing conditions created by the emerging forest. The return of diverse herbaceous vegetation on site increases overall site biodiversity.

A total of eleven different tree species have been planted at the site, they are white spruce, lodgepole pine, tamarack, willow, balsam poplar, trembling aspen, white birch, saskatoon, black spruce, red osier dogwood and green alder. The species planted are all native to the site's ecological zone. By planting and maintaining native species, the Project Forest community is contributing to their preservation, promoting biodiversity and restoring the ecosystem.



Increase in Desirable Natural Vegetation



Purpose

| UN SDG 15 - Life on Land



Indicator 15.2.1: Progress towards sustainable forest management.

The Project Forest Rewilding Plans, Monitoring Protocols, and Remediation Actions are designed to ensure the health and success of our forest. *Sustainable forest management* balances the needs of the community with the long-term use of forest resources while preserving the ecological integrity and benefits the forest provides to people and the environment. As part of Project Forest’s commitment to rewild land on behalf of our partners and the wider community, we employ a number of tools and metrics to provide scientific verification that our project sites will become mature forests that will benefit the environment and surrounding communities today, and generations to come.

Sustainable Forest Management

is a way of using and caring for forests to maintain their environmental, social, cultural and economic values and benefits over time (NRCAN, 2024).

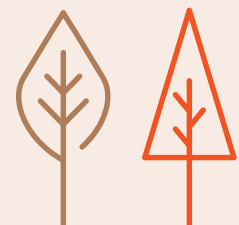


Adopt-a-patch weed management at Golden Ranches 2023, photo: Latiya Northwest

Rewilding Plans

Prior to planting a forest, Project Forest assesses the land and identifies site limiting factors. A Rewilding Plan is created and site limiting factors are addressed to ensure that the seedlings planted have the best chance of survival (Appendix B - Golden Ranches Rewilding Plan).

Unlike many of our other planting sites, there was no site preparation needed at Project Forest Golden Ranches. Due to continual cultivation and a loamy soil, the existing soil conditions and vegetation were suitable for planting. Prior to tree planting, we seeded the site with an annual rye grass cover crop. After seeding in 2021, a drought in the area occurred and most of the seed did not germinate until Spring 2022. This allowed many of the weeds that are currently on site to establish.



Purpose

| UN SDG 15 - Life on Land



Monitoring Protocols

The Project Forest Monitoring Plan requires that 2.44 plots per hectare are surveyed and each plot location is permanently marked. This resulted in 138 plots being sampled across the site. The survey data collected is used to prescribe future monitoring and maintenance events. We budget for a 25% fill plant for each project site in the event of significant tree mortality within the first six years. Our monitoring protocol ensures the seedlings planted are on a trajectory to becoming a mature forest through annual monitoring for up to six years post-planting.

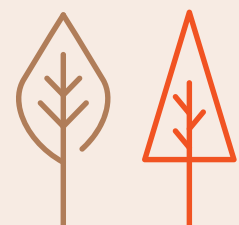
Figure 2: Recommended Fill Plant Areas



2023 fill plant areas marked in purple on the Golden Ranches Survey Map (Appendix A)

Remediation Activities

In the event of substantial tree mortality prior to the site passing the standard set out in our monitoring protocols, Project Forest will conduct a fill plant. A fill plant will occur when a 'Not Sufficiently Restocked (NSR)' area is identified. The 2023 survey indicated that a number of areas (marked in purple) may require remediation activities (Figure 2). Golden Ranches receives a fill plant every year through our Edmonton Corporate Planting Events.



Purpose

| UN SDG 15 - Life on Land



Indicator 15.3.1: Proportion of land that is degraded over total land area.

Project Forest is rewilding degraded land that has been disturbed and has not recovered through normal ecological processes.

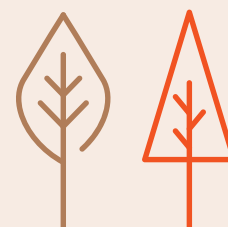
Project Forest Golden Ranches is located 30 minutes east of Edmonton in the Beaver Hills UNESCO Biosphere Reserve, a distinct geographic area of boreal mixedwood forest that supports wetlands, small lakes and streams, and critical habitat for many wildlife species. In the 1950s, the 55 hectare site, along with another 670 ha were cleared for a horse and cattle ranch. In 2010, the Golden Family donated the land to a group of conservation organizations including the NCC with the goal to increase natural recreation space for the public. Prior to rewilding, the site was non-productive with a number of noxious invasive species identified under the Provincial Weed Act present. In the NCC Golden Ranches Area 5 Restoration 2021 Annual Report, Delaney Schlemko states:

Bull Thistle (*Cirsium vulgare*), Common Tansy (*Tanacetum vulgare*), Butter-and-eggs (*Linaria vulgaris*, commonly known as Common Toadflax), Creeping Thistle (*Cirsium arvense*, commonly known as Canada Thistle), Scentless Chamomile (*Tripleurospermum inodorum*), Field Sowthistle (*Sonchus arvensis*, commonly known as Perennial Sow Thistle) and Bladder Campion (*Silene latifolia*, commonly known as White Cockle) were observed (Figure 1; Table 1). Creeping Thistle patches were observed in mixed weed patches with Field Sowthistle.

Rewilding degraded ecosystems has several positive effects including, an improvement to soil health, increased biodiversity, habitat for birds and animals, ground water filtration, and improved air quality.

Ecosystem degradation

is defined as, “an event or process that reduces the productivity or value of an ecosystem, or that delays or prevents an ecosystem from recovering from disturbance through normal successional processes.” (Haeussler et al., 2002)



Purpose

| UN SDG 13 - Climate Action

Goal: Take urgent action to combat climate change and its impacts.

Matching ESG Goals:

- Reducing GHG emissions.
- Experiencing nature in an educational and interactive way.



The forests we plant can have a significant impact on mitigating climate change.

Indicator 13.2.2: Total greenhouse gas emissions per year.

Forests act as carbon sinks, absorbing carbon dioxide (CO₂) from the atmosphere through photosynthesis and storing it in their biomass and soil. By planting forests, we increase the amount of CO₂ sequestered, thereby reducing the concentration of greenhouse gases (GHGs) in the atmosphere. This helps mitigate climate change by reducing the amount of CO₂ that contributes to global warming (NRCAN, 2024).

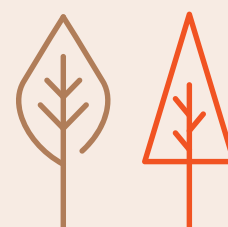
The amount of CO₂ projected to be removed from the atmosphere over the lifetime of Project Forest Golden Ranches is 65,315 metric tonnes. The estimated lifetime of a forest is 150 years.

Project Forest uses the [Carbon Budget Model of the Canadian Forest Sector \(CBM-CFS3\)](#) modelling framework developed by Natural Resources Canada to assess the impacts of our forests on carbon. This is the national standard for reporting on forest carbon.

65,315

Metric tonnes of CO₂ project to be removed from the air.

Carbon Budget Model of the Canadian Forest Sector is an aspatial, stand and landscape-level modelling framework used for international reporting of the forest carbon balance of Canada's managed forest (NRCAN, 2024).



Purpose

| UN SDG 13 - Climate Action



Target 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.

Project Forest provides our partners and the wider community with the opportunity to participate in educational activities through our Community and Corporate Outreach Program. Experiencing nature in an educational and interactive way enriches knowledge, fosters a connection with the environment, promotes well-being, and encourages responsible environmental behaviour. These are some of the engagement activities we conducted in 2023:

Lunch and Learns, Keynote Presentations and Panel Discussions

- Overview of the rewilding process, our projects, and stories of community impact
- Stakeholder project impacts and opportunity to engage with the Project Forest team

Corporate Tree Planting Events

- In-person, hands-on volunteering opportunities for Silver, Gold and Platinum financial partners are held annually at Golden Ranches
- Educational talks around seedling physiology, forest succession, tree planting technique, tree planting survey methodology, seed collection, plant identification, and traditional plant uses

Indigenous Engagement

- Opportunity to learn from Indigenous Knowledge Keepers and Elders in various capacities from presentations, interviews and talks, to one-on-one exchanges at our Corporate Planting Events and Annual Partner Celebration

Podcast, radio, tv and webinar interview

- Overview of the rewilding process for general audiences
- Discussions of more in-depth topics such as working with Indigenous communities, operating a non-profit, and sustainable forest practices

Annual Partner Celebration

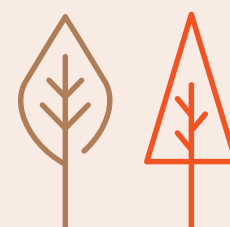
- Presentations featuring a wide range of speakers from the Project Forest community
- Focus on Indigenous reconciliation through rewilding, sustainable business practices, and community investment

Seedling and Seed Kit giveaway events throughout the year

- Opportunity to interact with the Project Forest team
- Celebrate the impact your organization is making
- Engage with the Project Forest community

11

Project Funding Partners



Purpose

| UN SDG 11 - Sustainable Cities and Communities

Goal: Make cities and human settlements inclusive, safe, resilient and sustainable.

Matching ESG Goals:

- Generating social & economic growth.
- Advancing health & wellbeing.
- Developing deeply ingrained Indigenous relationships.



Restoring degraded land can have a positive impact on communities through creating safe, resilient, and sustainable natural spaces.

Indicator 11.a.1: Number of countries that have national urban policies or regional development plans that (a) respond to population dynamics; (b) ensure balanced territorial development; and (c) increase local fiscal space.

The forests we plant provide areas for recreation and traditional land use within the community. Our funding partners finance the rewilding costs including seedlings, planting, and labour, allowing communities to allocate more funds to services and infrastructure.

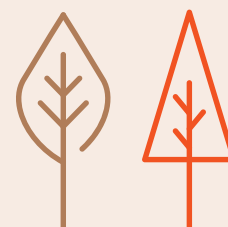
Project Forest Golden Ranches provides recreational opportunities in the ecologically unique Beaver Hills UNESCO Biosphere. Visitors to the forest can boost the local economy by increasing revenue from tourism-related activities such as accommodation, transportation and food services.

Rewilding projects require labour to complete, including but not limited to:

- Mechanical site preparation
- Seed collection
- Tree planting
- Vegetation management
- Survival assessment survey and data collection
- Cover crop deployment

By investing in rewilding, Project Forest funding partners are creating employment opportunities. The income earned by individuals through these jobs can have a positive economic impact, leading to increased tax revenues for the government and expanding **local fiscal space**.

Local fiscal space is defined as the sum of financial resources available to a government for the improved delivery of basic services without any prejudice to the sustainability of a government's financial position (Heller, 2005).



Positive Impact

| UN SDG 3 - Good Health and Well-Being



Goal: Ensure healthy lives and promote well-being for all, at all ages.

Planting a forest can have several positive impacts on ensuring healthy lives and promoting well-being for all ages.

Target 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.

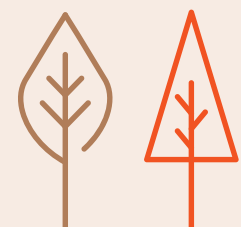
Forests act as natural air filters by absorbing pollutants and particulate matter from the atmosphere. Trees remove harmful gases by absorbing them through their leaf stomata, filtering these chemicals from the air. Particulate matter is intercepted by the tree's surfaces. When it rains, the particles are washed off and carried to the ground. Planting forests can help improve air quality, by reducing the exposure of communities to harmful pollutants. (Nowak et al., 2014)

In addition to improving air quality, forests provide opportunities for people to connect with nature, enjoy recreational activities, and experience the positive physical and mental health effects of spending time outdoors. They also provide various ecosystem services that indirectly contribute to our health and well-being.

Some of the important ecological services provided by forests include:

- cleaning water through water filtration
- cleaning air through oxygen production and absorption of pollutants
- rebuilding of soils and restoration of nutrients
- holding back floodwaters and releasing needed water into rivers and streams
- absorbing CO₂ from the atmosphere
- maintaining biodiversity by providing habitat for countless species

These services all indirectly impact human health and well-being.



Positive Impact

| UN SDG 6 - Clean Water and Sanitation



Goal: Ensure availability and sustainable management of water and sanitation for all

The forests we plant can have positive impacts on ensuring the availability and sustainable management of water.

Indicator 6.3.2: Proportion of bodies of water with good ambient water quality.

Forests filter, purify and improve the quality of our water. Tree roots help retain soil and reduce the transport of pollutants into water bodies.

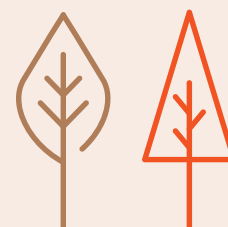
Planting forests in watershed areas can contribute to protecting water quality, ensuring access to clean water for communities. (NRCAN, 2025)

Project Forest Golden Ranches is located within the Beaverhill watershed, a subwatershed of the North Saskatchewan River watershed. The Beaverhill watershed contains forests and wetlands and supports a diverse range of plants and animals. People use the Beaverhill subwatershed for a variety of recreational activities including bird watching, hiking, canoeing, cross-country skiing, snowmobiling, and horseback riding.

While planting forests alone cannot solve all our water-related challenges, they do offer nature-based solutions to help achieve sustainable management of our water resources.

Target 6.6: By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.

Forests act as natural sponges and filters, absorbing rainfall and gradually releasing it while purifying it as it passes through the ecosystem. By restoring forests, we can enhance water quality, reduce erosion, and promote water retention in the landscape.



Positive Impact

| UN SDG 17 - Partnerships for the Goals

Goal: Strengthen the means of implementation and revitalize the global partnership for sustainable development.

Matching ESG Goals:

- Coordinating conservation, Indigenous, and business partnerships.
- Directing private capital toward public-good outcomes.
- Strengthening ESG transparency and accountability.



Every forest planted by Project Forest is made possible by the coming together of funding partners, Indigenous communities, conservation organizations, and land stewards, each contributing something the others cannot provide alone.

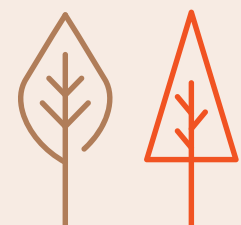
Indicator 17.3.1: Additional financial resources mobilized from multiple sources.

Rewilding benefits everyone, yet it rarely has a natural funding source. Project Forest’s funding model is designed to draw resources from multiple sectors, allowing partners to share the full cost of rewilding in a manner that is structured, accountable and scalable. Since 2020, this approach has grown to include 77 funding partners, connecting the Canadian business community to Indigenous territories and conservation sites in a meaningful way.

The ecological restoration of Golden Ranches was made possible through partnerships built on shared values and a collective commitment to long-term rewilding. This alignment demonstrates how multi-source funding can generate a lasting ecological and community legacy.

77

Total funding partners
between 2020 and 2025



Positive Impact

| UN SDG 17 - Partnerships for the Goals

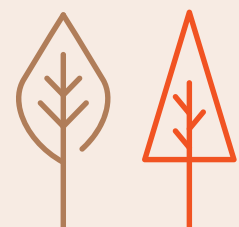


Target 17.16: Enhance the Global Partnership for Sustainable Development through multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources.

Our forests are the product of relationships that no single organization could build alone. Conservation groups contribute land and ecological expertise. Indigenous communities contribute land, traditional knowledge, cultural context, and long-term stewardship. Businesses contribute financial resources that make rewilding possible. Post-secondary institutions contribute research capacity and scientific rigour that strengthen our understanding of how these forests grow and function over time. When brought together in alignment, Project Forest is able to coordinate their contributions and ensure that the outcomes are documented and shared in a way that keeps all partners accountable and engaged year after year.

With additional guidance from the Indian Resource Council who hold a formal seat on our Board of Directors, we ensure that Indigenous institutional knowledge doesn't only shape our planting plans but our governance. This exchange of resources and knowledge deepens over time as relationships with our partners grow stronger each year. The result is not a transactional arrangement, but a growing community of organizations and individuals united around a shared commitment to rewilding Canada, one forest at a time.

We are a growing community of organizations and individuals united around a shared commitment to rewilding Canada, one forest at a time.



Partners

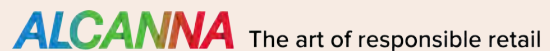
| Funding Partners



Project Forest Golden Ranches

Our work is not possible without you.

Thank you to the Project Forest Golden Ranches funding partners!



References

- Fierer, N., & Jackson, R. B. (2006). *The diversity and biogeography of soil bacterial communities*. PNAS, 103(3), 626–631.
- Haeussler, S., Bedford, L., Leduc, A., Bergeron, Y. & Kranabetter, J.M. (2002). Silvicultural disturbance severity and plant communities of the southern Canadian boreal forest. *Silva Fennica* 36(1): 307–327.
- Heller, P. S. (2005). *IMF Policy Discussion Paper: Understanding Fiscal Space*. International Monetary Fund. <https://www.imf.org/external/pubs/ft/pdp/2005/pdp04.pdf>
- IPCC. *Climate Change and Land: An IPCC Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security, and Greenhouse Gas Fluxes in Terrestrial Ecosystems*. Edited by P.R. Shukla et al., 2019, in press.
- Martin, A. C., Zim, H. S., & Nelson, A. L. (2011). *American wildlife and plants: A guide to wildlife food habits*. Dover Publications
- Natural Resources Canada. (2024). Carbon Budget Model. Government of Canada. <https://natural-resources.canada.ca/climate-change/climate-change-impacts-forests/carbon-budget-model>
- Natural Resources Canada. (2024). Forest carbon. Government of Canada. <https://natural-resources.canada.ca/climate-change/forest-carbon>
- Natural Resources Canada. (2024). Sustainable forest management in Canada. Government of Canada. <https://natural-resources.canada.ca/forests-forestry/sustainable-forest-management/sustainable-forest-management-canada>
- Natural Resources Canada. (2025). Water. Government of Canada. <https://natural-resources.canada.ca/forests-forestry/sustainable-forest-management/water>
- Nowak, D. J., Hirabayashi, S., Bodine, A., & Greenfield, E. (2014). Tree and forest effects on air quality and human health in the United States. *Environmental Pollution*, 193, 119-129.
- Tiquia, S. M., & Tam, N. F. Y. (2000). *Microbial activities in composts during the composting process*. Bioresource Technology, 75(3), 193–200.
- UNFCCC. *Glossary of CDM Terms*. EB41, 2008. Quoted in Global Canopy Programme, “Glossary of Terms,” *The Little REDD Book: A Guide to Governmental and Non-Governmental Proposals for Reducing Emissions from Deforestation and Degradation*, Global Canopy Foundation, November 2008.
- United Nations Educational, Scientific and Cultural Organization. (2016). Beaver Hills biosphere reserve. <https://www.unesco.org/en/mab/beaver-hills>
- Young, I. M., & Crawford, J. W. (2004). *Interactions and self-organization in the soil-microbe complex* Science, 304(5677), 1634–1637.
- Xerces Society for Invertebrate Conservation. (2011). *Attracting native pollinators: Protecting North America's bees and butterflies*. Storey Publishing

Appendix A - 2025 Site Survey

Afforestation Survey Cover Page				
Project site: Golden Ranches				
Survey Date(s)	September 23-25, 2025	Total Plots	138	
		Planted Area	49.7	
Stocking Calculations				
Type of Plot	# of Plots	% of Plots	Meet Final Criteria	% of Plots
SR with Acceptable Conifer trees	34	24.6	2	1.4
SR with Acceptable Deciduous trees	11	8.0	1	0.7
SR Acceptable Shrubs	14	10.1	1	0.7
SR with Acceptable Conifer & Deciduous trees	2	1.4		
SR with Acceptable Conifer trees & Shrubs	22	15.9	4	2.9
SR with Acceptable Deciduous trees & Shrubs	14	10.1	5	3.6
SR with Acceptable Conifer & Deciduous trees & shrubs	8	5.8		
NSR-LIG with Conifer	6	4.3		
NSR-LIG with Deciduous	8	5.8		
NSR-LIG with Shrub	1	0.7		
NSR-LIG with Conifer & Deciduous	6	4.3		
NSR-LIG with Conifer & Shrubs	0	0.0		
NSR-LIG with Deciduous & Shrubs	1	0.7		
NSR-LIG with Conifer & Deciduous trees & shrubs	1	0.7		
NSR -No Acceptable Woody species present	0	0.0		
Acceptable Stocking Summary				
Plot Stocking Status	# of Plots	% of Plots		
SR Plots	105	76.1		
NSR-LIG Stocking	17	12.3		
NSR (excludes NSR-LIG)	8	5.8		
Total Stocking (SR + NSR-LIG):	130	94.2		
Herbaceous Vegetation Observed on Site			Noxious Weeds	
Grass spp.			Canada Thistle	
Common Yarrow			White Cockle	
Clover			Common Tansy	
Dandelions			Sow Thistle	
Horsetail			Toadflax	
Common Cattail				
Fireweed				
goldenrod				
Project Comments: At the time of surveying, stocking efforts appeared successful as 94.2% of plots were acceptably stocked (SR and NSR-LIG). Competitive vegetation and noxious weed species remain a concern for the project area. Damaged and dead seedlings were observed by the surveyors at numerous plots, mostly due to herbicide and UTV, probably during herbicide application.				

Assessment Survey Tally Card

Plot	Tree & Shrub Stocking												Status Plot Type	Tallest in Plot		Risk factors		
	Acceptable		Acceptable		Acceptable		Acceptable		Under Height		Under Height			Species	Height (cm)	Damage , Disease & Competition	Noxious Weeds	
	Species	Number	Species	Number	Species	Number	Species	Number	Species	Number	Species	Number						
GR_001	Salix	3	Sw	1									SR-CS	Salix	127	Herbicide damage, UTV damage		
GR_002										Salix	1		NSR-LIG-S	Salix	37	Herbicide damage		
GR_003										Sw	2		NSR-LIG-C	Sw	28	Herbicide damage, UTV damage		
GR_004	Sw	1	BH	2									SR-CS	BH	72	Herbicide damage		
GR_005	Sw	1								Sw	1		SR-C	Sw	44			
GR_006	Salix	1											SR-S	Salix	142	Galls		
GR_007	Salix	1								Salix	1		NSR-LIG-S	Salix	53	Herbicide damage on willows. One has buds set,one dead		
GR_008	Sw	1	Salix	1									SR-CS	Salix	82	Herbicide damage on willow		
GR_009	DO	1								Sw	1		SR-S	DO	60	Spruce dead		
GR_010	Sw	1											SR-C	Sw	30			
GR_011													SR-					
GR_011a	RB	3								RB	7			RB	62			
GR_011b	Pl	3	Salix	4	At	1				RB	8			Salix	127			
GR_012	Sw	2	Salix	2						Sw	1		SR-CS	Salix	94	Herbicide damage, UTV damage		
GR_013	Salix	2	Pl	1									SR-CS	Salix	100	Herbicide damage - 3 dead willows		
GR_014	Sw	1								Sw	1		SR-C	Sw	30	Tall grass		
GR_015	Sw	1											SR-C	Sw	40			
GR_016	Sw	1											SR-C	Sw	38			
GR_017													SR-C			dead, unknown cause		
GR_017a	Sw	2												Sw	54	UTV damage		
GR_017b	Sw	1												Sw	52			
GR_018													SR-	#N/A				
GR_018a	Sw	1												Sw	48	Herbicide damage		
GR_018b	Sw	1												Sw	35	Herbicide damage		
GR_019	Sw	2											SR-C	Sw	39	UTV damage		
GR_020													NSR-	#N/A		Heavy herbicide damage; tall grass		
GR_020a														#N/A		grass		
GR_020b														#N/A		Herbicide damage		
GR_021	Salix	1	Sw	1	BH	5				BH	2		SR-CS	Salix	72			
GR_022	Sw	3								Sw	1	Salix	1	SR-C	Salix	50	Herbicide damage on willow	
GR_023	At	2	RW	1									SR-DS	At	182			
GR_024	Salix	1	Pl	1						Sw	1		SR-CS	Salix	111			
GR_025										Sw	2		NSR-LIG-C	Sw	23			
GR_026													NSR-					
GR_026a																		
GR_026b	Sw	3												Sw	60			
GR_027	Salix	1	At	1						At	1		SR-DS	Salix	90	Herbicide damage		
GR_028										DO	1		NSR-LIG-S	DO	40	Herbicide damage (minor)		
GR_029	Salix	11	Sw	1	At	2	Pb	1					SR-CDS	Salix	149			
GR_030	Salix	4								Salix	2		SR-S	Salix	156			
GR_031													NSR-			Tall grass		
GR_031a	At	2												At	75			
GR_031b																Grass		

Plot	Tree & Shrub Stocking												Status Plot Type	Tallest in Plot		Risk factors	
	Acceptable		Acceptable		Acceptable		Acceptable		Under Height		Under Height			Species	Height (cm)	Damage , Disease & Competition	Noxious Weeds
	Species	Number	Species	Number	Species	Number	Species	Number	Species	Number	Species	Number					
GR_032													NSR-			Grass	
GR_032a																Grass	
GR_032b																Grass	
GR_033									Sw	1			NSR-LIG-C	Sw	28		
GR_034	Sw	2							At	1	Sw	1	SR-C	At	56		
GR_035	Sw	1											SR-C	Sw	56	Dead/ burned tips	
GR_036									RW	2			NSR-LIG-S	RW	43	Herbicide damage	
GR_037	Sw	2							Sw	4			SR-C	Sw	58		
GR_038	Sw	2							Sw	1			SR-C	Sw	59	Grass	
GR_039	Sw	1							amelaln	1			SR-C	Sw	37		
GR_040													SR-				
GR_040a	Salix	1	Pl	1										Salix	121		
GR_040b	Salix	1							At	1				Salix	61	Herbicide damage	
GR_041	Salix	2											SR-S	Salix	93		
GR_042	Salix	1	Pl	1									SR-CS	Salix	71		
GR_043													NSR-			Grass	
GR_043a	Pl	1							Salix	1				Pl	36	UTV damage	
GR_043b																	
GR_044									DO	1	At	1	NSR-LIG-	DO	58		
GR_045													NSR-LIG-				
GR_045a	Salix	1	Sw	1					At	1				Salix	79	Herbicide damage on aspen	
GR_045b									Pl	2				Pl	40	Potential herbicide damage - needles are spindly	
GR_046									Sw	1	RB	3	NSR-LIG-CS	RB	42	Herbicide damage; grass	
GR_047	At	4							amelaln	1			SR-D	At	250		
GR_048													NSR-			Tall grasses	
GR_048a																	
GR_048b	Sw	1							RB	12				Sw	77		
GR_049	Salix	1	At	1	Sw	2							SR-CDS	Salix	112		
GR_050													SR-			Grass	
GR_050a	Sw	1												Sw	31	Grass	
GR_050b	Sw	1												Sw	30	Grass	
GR_051									Sw	2			NSR-LIG-C	Sw	23		
GR_052	Bw	1											SR-D	Bw	113	Herbicide damage	
GR_053	Salix	2	Bw	1									SR-DS	Salix	145		
GR_054	At	1							amelaln	1	At	1	SR-D	At	89	Herbicide damage	
GR_055	Salix	2	Pl	1									SR-CS	Salix	104		
GR_056	Salix	1	Sw	3									SR-CS	Salix	110		
GR_057	Salix	2	At	2									SR-DS	Salix	85	Herbicide damage	
GR_058									Pl	1			NSR-LIG-C	Pl	26	Dead pines	
GR_059									RB	1			NSR-LIG-S	RB	13		
GR_060	Sw	1											SR-C	Sw	47	Grass	
GR_061													SR-				
GR_061a	Bw	1	Sw	1										Bw	107	Herbicide damage - one birch dead	

Plot	Tree & Shrub Stocking												Status Plot Type	Tallest in Plot		Risk factors	
	Acceptable		Acceptable		Acceptable		Acceptable		Under Height		Under Height			Species	Height (cm)	Damage , Disease & Competition	Noxious Weeds
	Species	Number	Species	Number	Species	Number	Species	Number	Species	Number	Species	Number					
GR_061b	Sw	2												Sw	87	Herbicide and UTV damage - willow	
GR_062									RB	10	At	2	NSR-LIG-DS	RB	52	Herbicide damage	
GR_063	Salix	1							Salix	1			SR-S	Salix	82		
GR_064									Sw	2			NSR-LIG-C	Sw	26		
GR_065	Sw	1											SR-C	Sw	31	UTV damage	
GR_066	Sw	1											SR-C	Sw	30	Potential herbicide damage -brown tips; tall grass	
GR_067	At	1	Sw	1									SR-CD	At	83		
GR_068	Salix	7	Pb	1									SR-DS	Salix	230		
GR_069	Pl	1											SR-C	Pl	38		
GR_070	Salix	6	Sw	1					Salix	1			SR-CS	Salix	166	Grass	
GR_071	Sw	2											SR-C	Sw	63	Grass	
GR_072	Sw	2											SR-C	Sw	36	Grass	
GR_073	Bw	2											SR-D	Bw	71	Herbicide damage	CT
GR_074	Sw	3											NSR-LIG-C	Sw	23		toadflax, CT
GR_075	At	1											SR-D	At	77		CT, tansy
GR_076													NSR-				tansy, toadflax
GR_076a																	toadflax, CT
GR_076b	Bw	1												Bw	63		CT, toadflax
GR_077	Bw	2											SR-D	Bw	82		toadflax, tansy, CT
GR_078	Bw	3											SR-D	Bw	110		toadflax, tansy, thistle
GR_079	Sw	2											SR-C	Sw	60		toadflax, thistle
GR_080													SR-				tansy, thistle
GR_080a	Pb	1												Pb	72		tansy, thistle
GR_080b	Pb	1												Pb	118		toadflax, tansy
GR_081	Salix	11	Pb	1									SR-DS	Salix	214		CT
GR_082	Sw	3											SR-C	Sw	56		CT
GR_083	Sw	2											SR-C	Sw	40	Grass	CT, sow thistle
GR_084	Sw	1											SR-C	Sw	34	Grass	CT
GR_085	Sw	1							Sw	2			SR-C	Sw	30		CT, tansy
GR_086	Bw	1											SR-D	Bw	93		CT
GR_087	RW	1							RW	1			SR-S	RW	60		CT, tansy
GR_088									amelaln	6			NSR-LIG-S	amelaln	59		CT
GR_089									Sw	1			NSR-LIG-C	Sw	29		CT
GR_090	Salix	20	At	1									SR-DS	Salix	300		CT
GR_091	Salix	12	Sw	3									SR-CS	Salix	243		CT
GR_092	Salix	8	Pb	4									SR-DS	Salix	214		CT, tansy
GR_093	Salix	18	Pb	2									SR-DS	Pb	203	Grass	CT
GR_094	Sw	3											SR-C	Sw	54	Grass	CT
GR_095	Bw	93											SR-D	Bw	93	Grass	CT, tansy
GR_096									Bw	2			NSR-LIG-D	Bw	23		CT, tansy
GR_097	Sw	1							Salix	1			SR-C	Salix	43		CT, tansy
GR_098	Sw	1											SR-C	Sw	35		CT, tansy
GR_099	Salix	8											SR-S	Salix	171		CT, tansy

Plot	Tree & Shrub Stocking												Status Plot Type	Tallest in Plot		Risk factors	
	Acceptable		Acceptable		Acceptable		Acceptable		Under Height		Under Height			Species	Height (cm)	Damage , Disease & Competition	Noxious Weeds
	Species	Number	Species	Number	Species	Number	Species	Number	Species	Number	Species	Number					
GR_100	Salix	6	Sw	2									SR-CS	Salix	253		CT, tansy
GR_101	Lt	1											SR-C	Lt	114		CT
GR_102	Pb	1	Salix	1									SR-DS	Pb	165		CT
GR_103	Sw	1	Pb	1	Salix	2							SR-CDS	Pb	105		CT
GR_104	Pb	3	Salix	3									SR-DS	Pb	91		CT
GR_105													NSR-				CT, tansy
GR_105a																	CT, tansy
GR_105b																	CT, tansy
GR_106	Lt	1	Salix	2									SR-CS	Lt	117	Grass	
GR_107	Sw	1											SR-C	Sw	34	Grass	tansy,CT
GR_108	Pb	1											SR-D	Pb	128		CT, white cockle
GR_109	Salix	7	Sw	3									SR-CS	Salix	180		tansy
GR_110	Salix	10	Pb	2	Lt	2							SR-CDS	Pb	134		CT
GR_111	Salix	11	Pb	3	Sw	1							SR-CDS	Salix	173		CT
GR_112	Salix	7	Lt	1	At	1							SR-CDS	Salix	176		CT
GR_113	Pb	1	Lt	1	Sw	1							SR-CD	Pb	99		CT
GR_114	Salix	4											SR-S	Salix	191		CT, tansy
GR_115	Sw	1											SR-C	Sw	59		CT, tansy
GR_116	Sw	1											SR-C	Sw	60		tansy, thistle
GR_117	Salix	5											SR-S	Salix	138		CT
GR_118	Salix	3	At	1									SR-DS	Salix	179		CT, tansy
GR_119	Salix	8	Pb	2									SR-DS	Pb	120		tansy
GR_120	Salix	9	Pb	1									SR-DS	Salix	189		CT
GR_121	Salix	7											SR-S	Salix	135		
GR_122	Salix	9											SR-S	Salix	229		CT, cockle
GR_123	Salix	1											SR-S	Salix	145		CT, cockle
GR_124	Salix	3											SR-S	Salix	179		white cockle, CT
GR_125	Salix	3	Sw	2									SR-CS	Salix	157		tansy
GR_126	Salix	3	Sw	2									SR-CS	Salix	93		tansy, CT, cockle
GR_127	Salix	3	Pb	1	Sw	1							SR-CDS	Salix	112		white cockle, thistle
GR_128	Salix	2	Lt	3									SR-CS	Lt	103		
GR_129	Salix	3											SR-S	Salix	130		toadflax, white cockle
GR_130	At	2											SR-D	At	133		white cockle
GR_131	Salix	10	Lt	1									SR-CS	Salix	196		CT
GR_132	Salix	1	Sw	2									SR-CS	Salix	173		CT
GR_133	Sw	1											SR-C	Sw	35		CT
GR_134	Salix	1	Sw	1					Salix	1			SR-CS	Salix	74		CT
GR_135	Salix	4	Sw	2	Pb	1							SR-CDS	Salix	140		tansy
GR_136	Lt	4											SR-C	Lt	112		CT
GR_137	Salix	3	Lt	2									SR-CS	Lt	99	Grass	CT
GR_138	Lt	1											SR-C	Lt	99	Grass	



Golden Ranches Survey Plot Status Fall 2025

Project Partners:



Legend

Project Boundary	SR-CDS
Plot Status	SR-
SR-C	NSR-LIG-C
SR-D	NSR-LIG-D
SR-S	NSR-LIG-S
SR-CD	NSR-LIG-
SR-CS	NSR-
SR-DS	



Date Created: 2026-01-07
Project CRS: ESRI:102178
Source: Google Satellite, ESRI Topo
Created By: Tree Time Services Inc.
Scale: 1:3,000

0 100 200 m

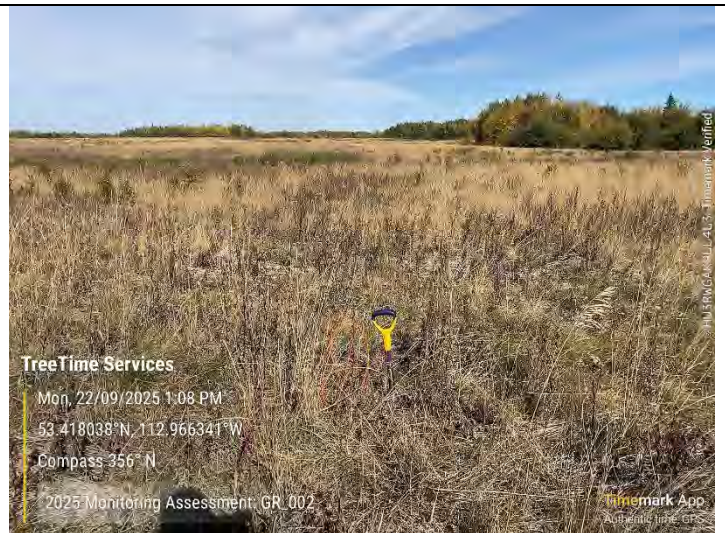
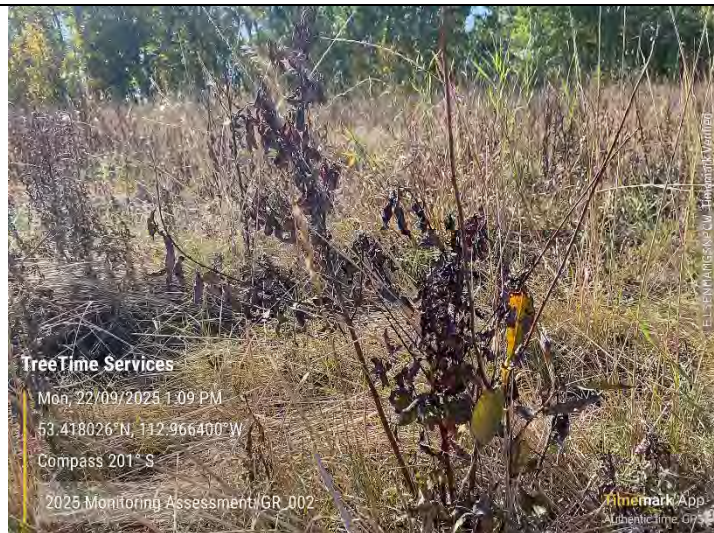


Site Photos

GR_001



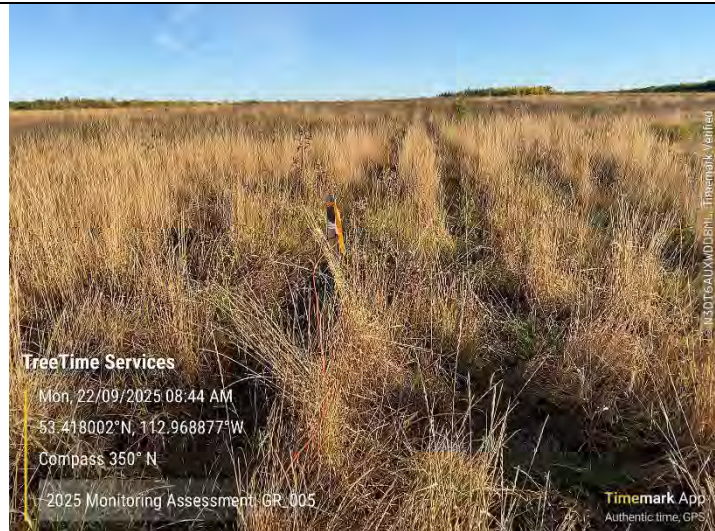
GR_002



GR_003



GR_005



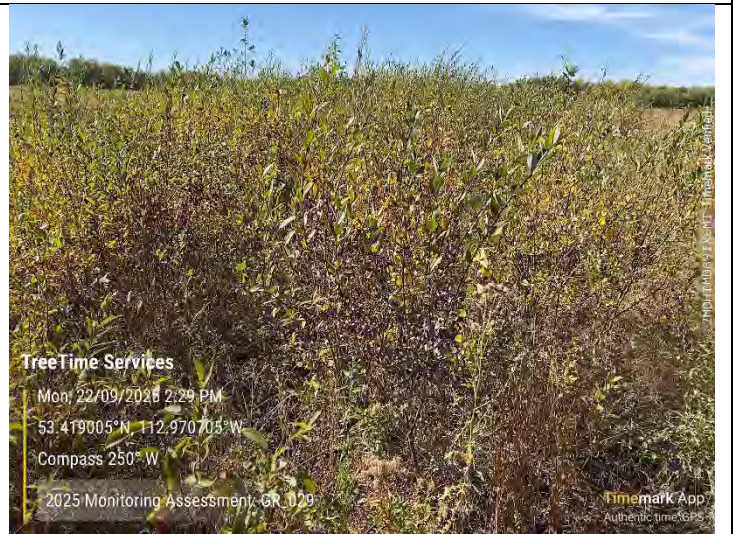
GR_006



GR_023



GR_029



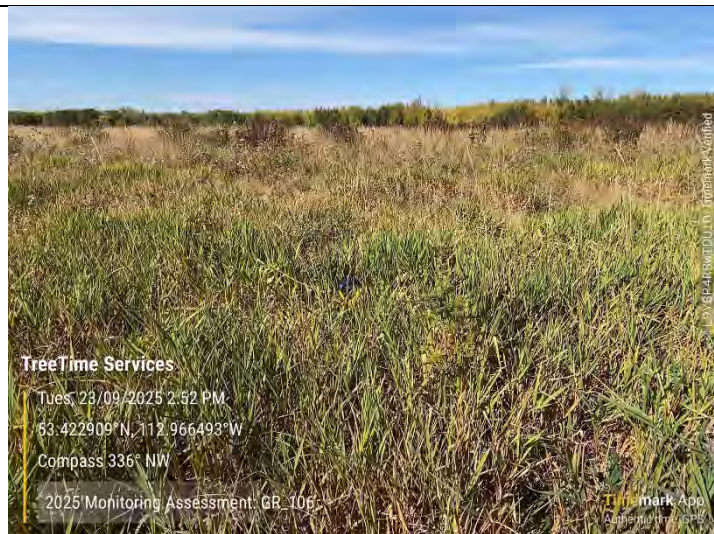
GR_073



GR_091



GR_106



GR_129



GR_132



Appendix B - Restoration Overview



Golden Ranches Restoration Overview

Prepared by:
Project Forest



This document provides an overview of the restoration plan for Project Forest at the Golden Ranches property of NW 24-51-21 W4M. Timing and exact quantities of seedling are approximate.

Site Restoration Plan

Species and stock types

We will be using the following species and stock types for this planting:

Table 1: Species recommended for planting at Golden Ranches site

Species	Stock Type	Stock Size
White spruce	Plug - 1+0	410A
Black spruce	Plug - 1+0	410A
Balsam poplar	Plug - 1+0	415D
Trembling aspen	Plug - 1+0	415D
Larch/Tamarack	Plug - 1+0	412A
White birch	Plug - 1+0	415D
Lodgepole Pine	Plug - 1+0	410A
Willow spp.*	Plug - 1+0	412D
Buffaloberry**	Plug - 1+0	415D
Saskatoons**	Plug - 1+0	412D
Prickly wild rose**	Plug - 1+0	415D

***Note:** Willow spp. refers to a mix of native willow species.

****Note:** Potential shrub species that may be deployed if available, others local to the area may be considered.

Site preparation and maintenance

Unlike many planting areas, there is no site preparation required for the soil conditions or current vegetation. Due to continual cultivation and a loamy soil, the soil is currently suitable for planting.

To reduce the establishment of weeds and forage grasses in the bare soil, we will establish a cover crop be established prior to planting. The recommended seed mix for a cover crop would be a Central Parkland Native Seed Mix (Reference – **Table 2**) blended with an annual rye grass.



The annual rye grass would quickly establish on the site to prevent weed establishment. This would provide a short-term cover crop as the other species take more time to establish and cover the site.

Table 2: Central Parkland Native Seed Mix

Species	Percentage of Mix
Slender Wheatgrass	25%
Northern Wheatgrass	15%
Fringed Brome (ultracoat)	15%
Green Needlegrass	15%
Canada Wild Rye (ultracoat)	10%
Indian Ricegrass	10%
Alkaligrass	10%

Note: An annual rye if added would make up 10% of the total seed mix.

Maintenance

The only recommended maintenance activity would be for weeds. As weeds establish onsite, a backpack sprayer could be used a few times annually to remove them as needed. Closer to the roads where the conifers will be exclusively planted, more aggressive annual weed spraying may have to occur.

Planting strategy/techniques

The planting strategy would be dividing the site into three different areas (Reference **Appendix A**) based on their topography and relative amount of wind protection. These areas would reflect their suitability for different species and their relative planting proportions.

Area 1

This area is primarily the north west of the site and is mostly a lower elevation relative to the rest of the site. Much of this area is on a slope with a northern and western aspect. At the bottom of the slope is a poorly drained area with a coarser soil texture relative to the rest of the site.

Table 3: Recommended Species for Golden Ranches Area 1

Species	Proportion	Comments
Willow	20%	Planted in the wetter areas, mostly in the north
Balsam poplar	20%	A few larger clusters and scattered throughout site
White spruce	20%	Distributed throughout the site
Black Spruce	10%	Planted in the wetter areas, mostly in the north
Larch	30%	Planted in the wetter areas, mostly in the north

Area 2

This area is the exposed ridge that runs through the centre of the site on an east to west orientation. As this is the most exposed area, it is the most stressful to seedlings. There will be less snow on this area, and more desiccation during winter. Conifer seedlings will be planted in protected spots. Deciduous species will be planted here as they are less prone to winter kill and desiccation as they have no foliage in winter.

The species selection in this area would be a mixture of more deciduous and stress tolerant species.

Table 4: Recommended Species for Golden Ranches Area 2

Species	Proportion	Comments
White spruce	25%	Planted behind residual tree stand
Lodgepole Pine	10%	Planted behind residual tree stand
Balsam poplar	15%	Planted throughout the area
Trembling aspen	15%	Planted throughout the area
White birch	35%	Planted throughout the area

Area 3

This area is composed of the southern and eastern portion of the property. It is bordered by the ridge and property boundaries. This area is a bit more protected than the ridge, though not as much as Area 1. There are some lower, wetter spots, and ditch plugs were installed changing the immediate soil moisture conditions in smaller areas.



Closest to the road will be exclusively conifer. This area will have the highest weed presence and require the most aggressive management activities. The wetlands will have willows planting around them.

Table 5: Recommended Species for Golden Ranches Area 3

Species	Proportion	Comments
White spruce	40%	A couple of larger clusters throughout area
Lodgepole pine	30%	A couple of larger clusters throughout area
Trembling aspen	20%	A couple of small clusters throughout area
Willow	10%	Plant along the wetter areas

Appendix A – Map of Planting Area



Project - NCC Golden Ranches
Location - 369131E 5920898N
Overview
Projection - UTM NAD 83 Zone 12
Scale - 1:5000

0 0.1 0.2 0.3 km

Areas

- Area 1 - 20.26 ha
- Area 2 - 10 ha
- Area 3 - 18.43 ha