2023 Annual Project Report

Project Forest Golden Ranches

Project Forest

Contents

Land Acknowledgement
| Traditional Territories

Members of Cumberland House Cree Nation (CHCN) at the CHCN Food and Medicine Forest

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 and Values

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 the air and water, increase biodiversity and contribute to the overall health and well-being of our communities.

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.

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 2023 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.

Purpose & Positive Impact

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

Purpose

Positive Impact

Overview

| Forest Facts

About the forest you funded.

NAME

Project Forest Golden Ranches

DATE PLANTED

Summer 2021

TOTAL SEEDLINGS PLANTED

110,160

TOTAL CO_2 REMOVED FROM THE AIR*

65,315 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)

LOCATION

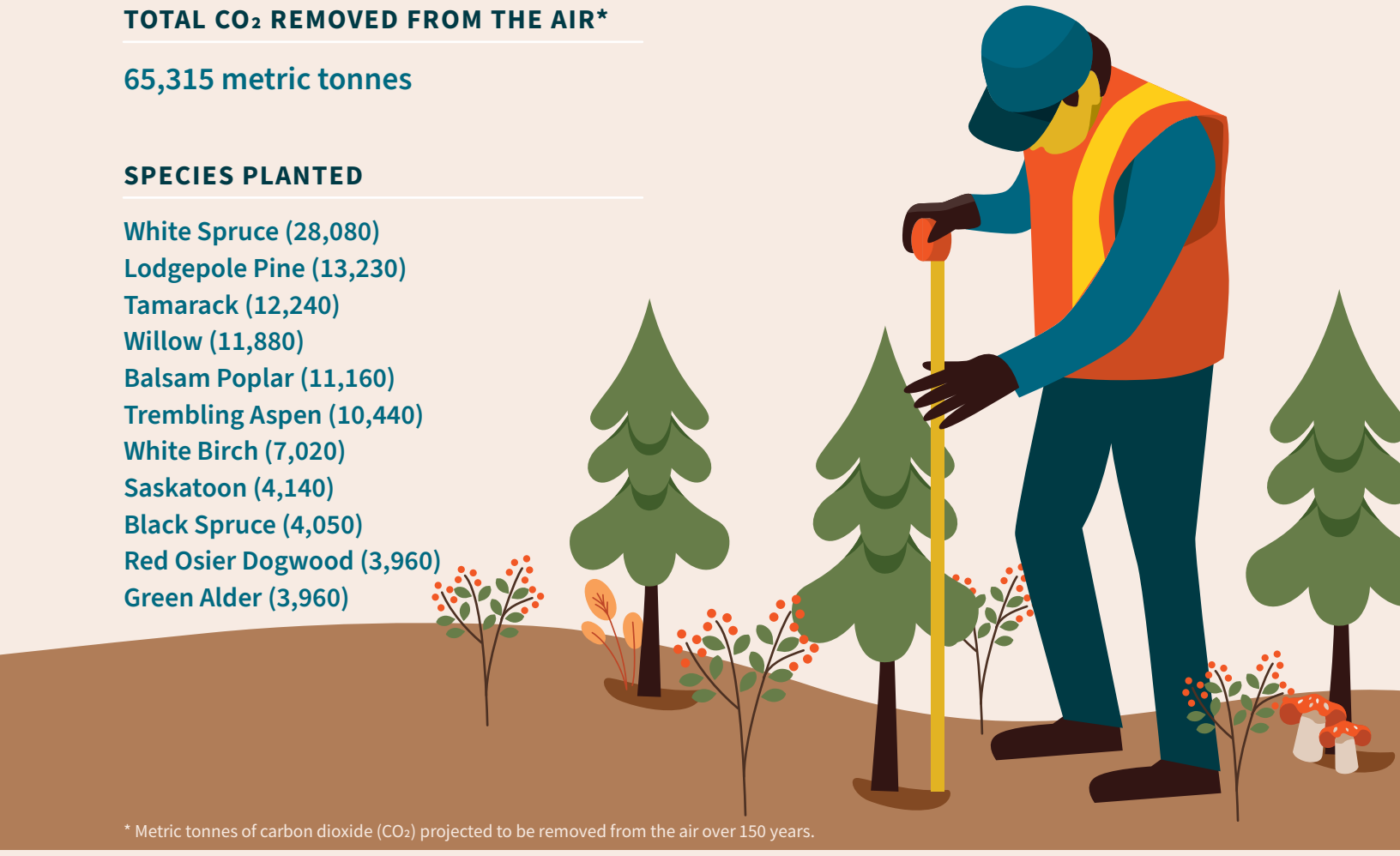
Strathcona County, Alberta
53°25'03.6"N 112°58'11.3"W

SIZE

55 hectares

TOTAL SPECIES PLANTED

11



* Metric tonnes of carbon dioxide (CO_2) projected to be removed from the air over 150 years.

Purpose

| UN SDG 15 - Life on Land

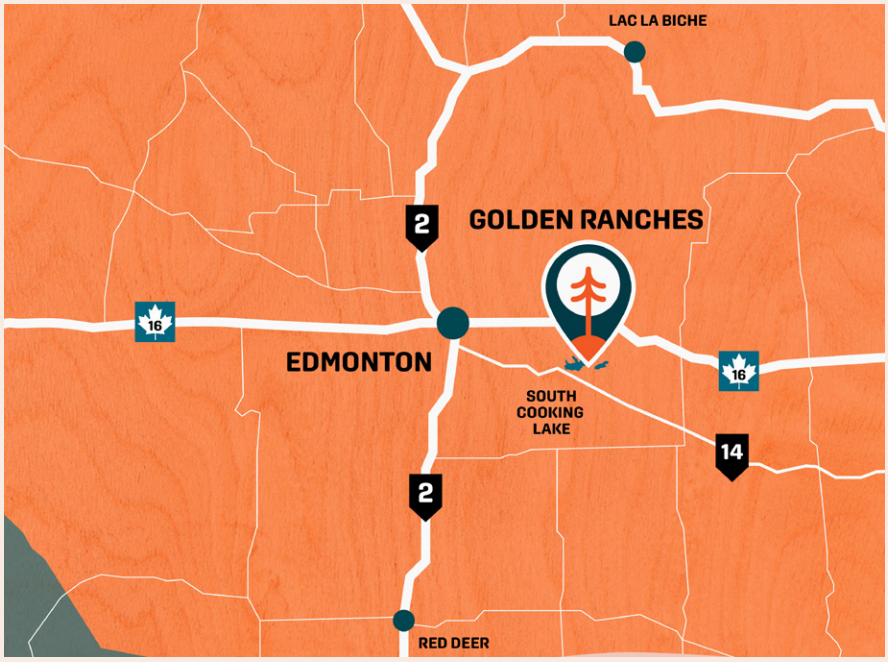
Goal: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

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

67.4%
Tree Survival Rate

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 occured 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.

138
Plots Sampled

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

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.

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Species Planted

NATURE CONSERVANCY CANADA

"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.

↑

Increase in Desirable Natural Vegetation

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.

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

Purpose

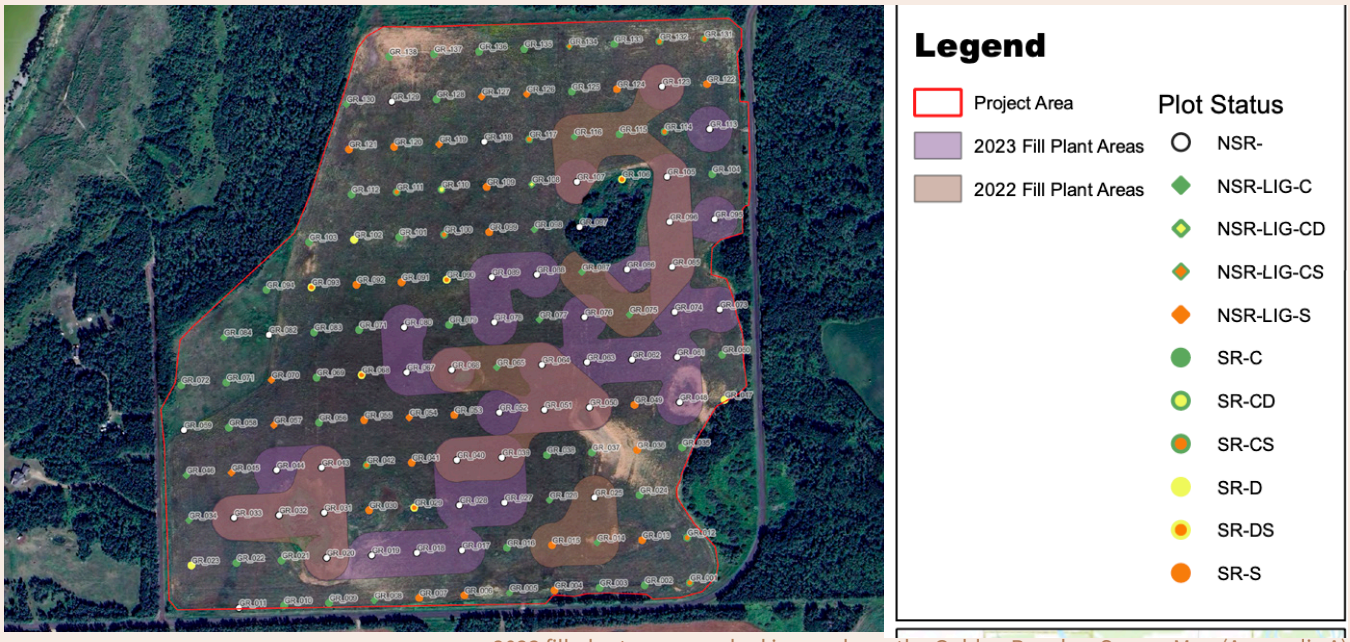
| UN SDG 15 - Life on Land

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.

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, 2022).

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:

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Project Funding Partners

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

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.

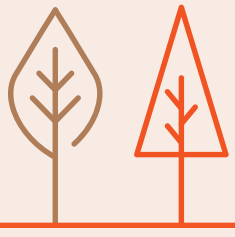
Rewilding projects require labour to complete, including but not limited to:

- 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

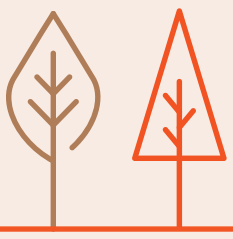
Forests act as natural air filters by absorbing pollutants and particulate matter from the atmosphere. Trees remove harmful gases by absorbing them through their leaf stomata, filtering these chemicals from the air. Particulate matter is intercepted by the tree's surfaces. When it rains, the particles 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.

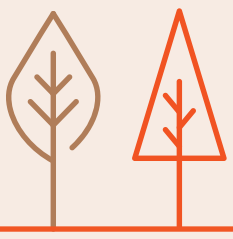
Forests filter, purify and improve the quality of our water. Tree roots help retain soil and reduce the transport of pollutants into water bodies. Planting forests in watershed areas can contribute to protecting water quality, ensuring access to clean water for communities. (NRCAN, 2021)

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.



Partners

| Funding Partners

Project Forest Golden Ranches

Our work is not possible without you.

Thank you to the Project Forest Golden Ranches funding partners!

PEMBINA

IKEA

Johnny Morris Bass Pro Shops Cabela's OUTDOOR FUND

TIDEWATER RENEWABLES

ALCANNA The art of responsible retail

WINE AND BEYOND | LIQUOR depot | ACE LIQUOR

Aircom Instrumentation Ltd.

PHILLIPS BREWING & MALTING CO

Imperial

JED ENVIRONMENTAL

AUTUMN GOOSE COACHING

FLINT Environmental Services

JSK consulting ltd.

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Appendix A - Annual Monitoring Report

Afforestation Survey Cover Page			
Project Site: NCC – Golden Ranches			
Survey Date(s)	October 31, 2023	Total Plots	138

Stocking Calculations

Type of Plot	# of Plots	% of Plots	Meet Final Criteria	% of Plots
SR with Acceptable Conifer trees	32	23.2	0	0
SR with Acceptable Deciduous trees	3	2.2	0	0
SR Acceptable Shrubs	20	14.5	0	0
SR with Acceptable Conifer & Deciduous trees	1	0.7	0	0
SR with Acceptable Conifer trees & Shrubs	9	6.5	0	0
SR with Acceptable Deciduous trees & Shrubs	5	3.6	0	0
SR with Acceptable Conifer & Deciduous trees & shrubs	0	0.0	0	0
NSR-LIG with Conifer	14	10.1	0	0
NSR-LIG with Deciduous	0	0.0	0	0
NSR-LIG with Shrub	7	5.1	0	0
NSR-LIG with Conifer & Deciduous	1	0.7	0	0
NSR-LIG with Conifer & Shrubs	1	0.7	0	0
NSR-LIG with Deciduous & Shrubs	0	0.0	0	0
NSR-LIG with Conifer & Deciduous trees & shrubs	0	0.0	0	0
NSR -No Acceptable Woody species present	45	32.6	N/A	N/A

Acceptable Stocking Summary

Plot Stocking Status	# of Plots	% of Plots
SR Plots	70	50.7
NSR-LIG Stocking	23	16.7
NSR (excludes NSR-LIG)	45	32.6
Total Stocking (SR + NSR-LIG):	93	67.4

Herbaceous Vegetation Observed on Site			**Noxious Weeds**
Grass spp.	Horsetail		Canada thistle
Clover			Tansy
Dandelions			Sow thistle
Foxtail barley			
Circium spp.			
Common Yarrow			
Cinquefoil			
Goldenrod			
Silene spp.			
Artemisia sp.			

Project Comments:
The site has high grass competition.

Assessment Survey Tally Card

Plot	Tree & Shrub Stocking								Status	Tallest in Plot		Risk factors		
	Acceptable		Acceptable		Under Height		Under Height			Species	Height (cm)	Evidence of: Damage, Disease, Competition,		Noxious Weeds
	Species	Number	Species	Number	Species	Number	Species	Number						
GR_001	Sx	1	Sw	1	Sx	3			SR	Sx	91			
GR_002	Pl	1							SR	Pl	39		Heavy grass	
GR_003	Pl	1			Sw	2			SR	Pl	32			
GR_004	Buffaloberry	1			Sw	1			SR	Buffaloberry	68		Heavy grass	
GR_005					Sw	1			NSR-LIG	Sw	26		Heavy grass	Canada thistle
GR_006	Sx	1							SR	Sx	87		Heavy grass	Canada thistle
GR_007	Sx	1			Aw	1			SR	Sx	88		Heavy grass	
GR_008					Sw	1			NSR-LIG	Sw	18	Top removed	Heavy grass	
GR_009	Sw	1			Red Osier Dogwood	1			SR	Sw	38		Heavy grass	
GR_010	Sw	1			Sw	1	Red Osier Dogwood	2	SR	Red Osier Dogwood	48			Canada thistle
GR_011									NSR					Canada thistle
GR_012	Sx	2	Sw	1	Sw	1			SR	Sx	114			Canada thistle
GR_013	Sx	1							SR	Sx	84			
GR_014					Sw	2			NSR-LIG	Sw	18			Canada thistle
GR_015	Sx	1							SR	Sx	75		Heavy grass	
GR_016	Sw	1			Sw	1			SR	Sw	41		Heavy grass	
GR_017									NSR				Heavy grass	
GR_018									NSR				Heavy grass	Canada thistle
GR_019									NSR				Heavy grass	
GR_020									NSR				Grass	
GR_021	Sw	1							SR	Sw	38		Heavy grass	
GR_022	Sw	2							SR	Sw	41		Heavy grass	
GR_023	Aw	1							SR	Aw	120			
GR_024	Sx	1							SR	Sx	61			
GR_025									NSR				Heavy grass and clover	Canada thistle
GR_026					Sw	1			NSR-LIG	Sw	28		Grass	
GR_027									NSR				Heavy grass	
GR_028									NSR				Heavy grass	
GR_029	Red Osier Dogwood	7	Pb	1	Red Osier Dogwood	3	Sw	1	SR	Red Osier Dogwood	75			Canada thistle
GR_030	Red Osier Dogwood	2			Red Osier Dogwood	3			SR	Red Osier Dogwood	72			
GR_031									NSR				Heavy grass	
GR_032									NSR				Heavy grass	
GR_033									NSR				Heavy grass	Canada thistle
GR_034					Sw	4			NSR-LIG	Sw	14			
GR_035	Sw	1							SR	Sw	32			
GR_036	Wild Rose	1			Wild Rose	2			SR	Wild Rose	77			
GR_037	Sw	1							SR	Sw	31		Heavy grass	
GR_038	Sw	2							SR	Sw	38		Grass	
GR_039									NSR				Grass	Canada thistle
GR_040									NSR				Grass	Canada thistle tansy
GR_041	Sx	2			Sw	1	Sx	1	SR	Sx	79		Grass	Canada thistle
GR_042	Pl	1	Red Osier Dogwood	1					SR	Red Osier Dogwood	61			
GR_043									NSR				Heavy grass	Tansy Canada thistle
GR_044									NSR				Heavy grass and clover	Canada thistle
GR_045					Red Osier Dogwood	1			NSR-LIG	Red Osier Dogwood	27	Browse	Heavy grass	Canada thistle
GR_046					Sw	3			NSR-LIG	Sw	20			
GR_047	Pb	10							SR	Pb	171			
GR_048									NSR					
GR_049	Sx	1			Sw	1			SR	Sx	69			
GR_050									NSR					
GR_051									NSR				Heavy grass	
GR_052									NSR				Heavy grass	Canada thistle
GR_053	Sx	1							SR	Sx	68			
GR_054					Red Osier Dogwood	2			NSR-LIG	Red Osier Dogwood	35	Browse	Grass	Canada thistle
GR_055	Sx	1			Pl	1			SR	Sx	87			
GR_056	Sw				Sw	1	Red Osier Dogwood	1	SR	Red Osier Dogwood	58			
GR_057					Red Osier Dogwood	1			NSR-LIG	Red Osier Dogwood	43		Grass	Tansy Canada thistle
GR_058	Pl	1			Pl	1			SR	Pl	31		Heavy grass	Tansy Canada thistle
GR_059									NSR				Grass	Tansy Canada thistle
Gr_060	Sw	1							SR	Sw	31			

Plot	Tree & Shrub Stocking								Status	Tallest in Plot		Risk factors		
	Acceptable		Acceptable		Under Height		Under Height			Species	Height (cm)	Evidence of: Damage, Disease, Competition,		Noxious Weeds
	Species	Number	Species	Number	Species	Number	Species	Number						
GR_061									NSR				Heavy grass	
GR_062									NSR				Heavy grass	
GR_063									NSR					
GR_064									NSR				Heavy grass	
GR_065					Sw	1			NSR-LIG	Sw	24			
GR_066									NSR				Heavy grass	
GR_067									NSR				Grass	
GR_068	Sx	2	Pb	1	Sx	3			SR	Sx	103			
GR_069	Pl								SR	Pl	39		Heavy grass	
GR_070					Red Osier Dogwood	1			NSR-LIG	Red Osier Dogwood	19			
GR_071	Sw	1			Sw	1			SR	Sw	48			Canada thistle
GR_072	Sw	1			Sw	3			SR	Sw	31			
GR_073									NSR				Heavy grass	
GR_074									NSR				Heavy grass	
GR_075					Sw	2			NSR-LIG	Sw	18			
GR_076									NSR				Heavy grass	Tansy
GR_077					Sw	1			NSR-LIG	Sw	13		Heavy grass	
GR_078									NSR					
GR_079	Sw	2							SR	Sw	44		Grass	
GR_080									NSR				Grass	Tansy
GR_081	Sx	2			Sx	4			SR	Sx	82			
GR_082									NSR					Canada thistle sow thistle
GR_083	Sw	1			Sw	1			SR	Sw	34			
GR_084					Sw	1			NSR-LIG	Sw	24		Flat grass	Canada thistle
GR_085									NSR				Heavy grass	
GR_086									NSR				Heavy grass	
GR_087					Sw	1			NSR-LIG	Sw	16			
GR_088									NSR					
GR_089									NSR					
GR_090	Sx	10	Pb	1					SR	Sx	195			
GR_091	Sx	7			Sw	1			SR	Sx	97			
GR_092	Sx	1			Sx	2			SR	Sx	79			
GR_093	Pb	1	Sx	2	Sx	2			SR	Pb	73			
GR_094	Sw	2							SR	Sw	46		Grass	Canada thistle
GR_095									NSR				Heavy grass	
GR_096									NSR					
GR_097_new									NSR				Heavy grass	
GR_098					Sw	4			NSR-LIG	Sw	29			
GR_099	Sx	2			Sx	1			SR	Sx	85			
GR_100	Sw	2	Sx	3					SR	Sx	112			
GR_101	Tx	1							SR	Tx	36			
GR_102	Pb	1							SR	Pb	87			
GR_103	Sw	1			Pb	1	Sx	2	SR					
GR_104	Sw	1							SR	Sw	41			Canada thistle, Tansy
GR_105									NSR				Heavy grass	
GR_106	Sx	2	Pb	1	Sx	2			SR	Pb	66			
GR_107									NSR				Heavy grass	
GR_108					Sw	1	Pb	1	NSR-LIG	Pb	46			
GR_109	Sx	1			Sx	1			SR					
GR_110	Pb	2	Tx	1	Sx	1			SR	Pb	88			
GR_111	Sx	1	Sw	1	Sx	4			SR	Sx	110			
GR_112	Sx	2	Tx	1	Sx	1			SR	Sx	134			
GR_113									NSR					
GR_114	Sw	1	Sx	3					SR	Sx	133			
GR_115	Sw	1							SR	Sw	41			
GR_116					Sw	2			NSR-LIG	Sw	16			
GR_117	Sx	6	Sw	1	Sx	1			SR	Sx	108			
GR_118									NSR					
GR_119					Sx	1			NSR-LIG	Sx	33			
GR_120	Sx	2			Sx	2			SR	Sx	99			

Plot	Tree & Shrub Stocking								Status	Tallest in Plot		Risk factors		
	Acceptable		Acceptable		Under Height		Under Height			Species	Height (cm)	Evidence of: Damage, Disease, Competition,		Noxious Weeds
	Species	Number	Species	Number	Species	Number	Species	Number						
GR_121	Sx	1			Sx	3			SR	Sx	64			
GR_122	Sx	4							SR	Sx	130			
GR_123									NSR					
GR_124	Sx	2							SR	Sx	68			
GR_125	Sw	2							SR	Sw	46			
GR_126					Sx	1			NSR-LIG	Sx	42			
GR_127					Sx	3			NSR-LIG	Sx	42			
GR_128	Tx	1							SR	Tx	62			
GR_129									NSR					
GR_130					Sw	1			NSR-LIG	Sw	29			
GR_131	Sx	5	Tx	1	Sx	2			SR	Sx	115			Canada thistle
GR_132	Sw	1	Sx	2					SR	Sx	111			
GR_133	Sw	1							SR	Sw	38			
GR_134					Sx	1	Sw	1	NSR-LIG	Sx	25			
GR_135	Sw	1							SR	Sw	32			Tansy
GR_136	Sw	3							SR	Sw	37			
GR_137	Tx	4							SR	Tx	47			
GR_138	Tx	1							SR	Tx	43			

Golden Ranches
Survey Plot Status
Fall 2023

Project Partners:

Project Forest

Nature Conservancy Canada

Legend

- Project Boundary

Plot Status

- SR-C
- SR-CD
- SR-CS
- SR-D
- SR-DS
- SR-S
- NSR-LIG-C
- NSR-LIG-CD
- NSR-LIG-CS
- NSR-LIG-S
- NSR

Date Created: 2023-11-14
Project CRS: EPSG:3400
Source: Bing Aerial 1, ESRI World Topo
Created By: Tree Time Services Inc.
Scale: 1:3,200

0 50 100 150 m

Golden Ranches
Fill Plant Areas
Fall 2023

Project Partners:

Project Forest

Nature Conservancy Canada

Legend

Project Area

2023 Fill Plant Areas

2022 Fill Plant Areas

Plot Status

- NSR-
- NSR-LIG-C
- NSR-LIG-CD
- NSR-LIG-CS
- NSR-LIG-S
- SR-C
- SR-CD
- SR-CS
- SR-D
- SR-DS
- SR-S

Date Created: 2024-02-05
Project CRS: EPSG:3400
Source: Google Satellite
Created By: Tree Time Services Inc.
Scale: 1:3,500

0 50 100 150 200 m

Site Photos

Plot GR_22

Plot GR_40

Plot GR_49

Plot GR_87

Plot GR_111

Plot GR_123

Project Forest Monitoring Assessment Summary Sheet

Project Name	Golden Ranches
Applicability:	Trajectory of re-wilding success
Landowner:	NCC
Site Location:	53.420853,-112.968777
Year Planted:	2021
Assessment #:	2

First and last name of qualified surveyors (or as attached):

Maclean Forbes, Jennifer McGuinness

Disturbance Areas and area to be removed from afforestation project area(s):

No areas will be removed from the project area.

As per the Project Forest Monitoring Program, all area(s) impacted by forest fire, insects or industrial development will be removed from the afforestation project area. No such disturbance were recorded.

Summary of Preventive and Corrective Actions:

There are several areas that have been identified that can be considered for a fill plant. The areas that overlap the same areas as last survey have been identified and should receive a fill plant. Due to high competition, the additional NSR areas may be due to increased difficulties assessing the plot. An additional monitoring year may be considered for these areas.

The survey confirmed that the weed issues on site continue. However, the NCC is proactively working on managing the weeds on site.

Declaration:

I do hereby declare that this submission:

a) **Adheres to all components of the required Quality Assessment/Quality Control program, and;**
b) **Includes only surveys that have been conducted according to the methods detailed in the Project Forest - Golden Ranches Reforestation Monitoring Program, and;**
c) **Complies with the requirements for report timing and format.**

Validated/Signed by:	**Registration #**	**Date:**
	1838	February 5, 2024
Print Name:	**Company:**	
Lindsay Dent	Tree Time Services Inc.	

Appendix B - Golden Ranches Rewilding Plan

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.

Project Forest

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

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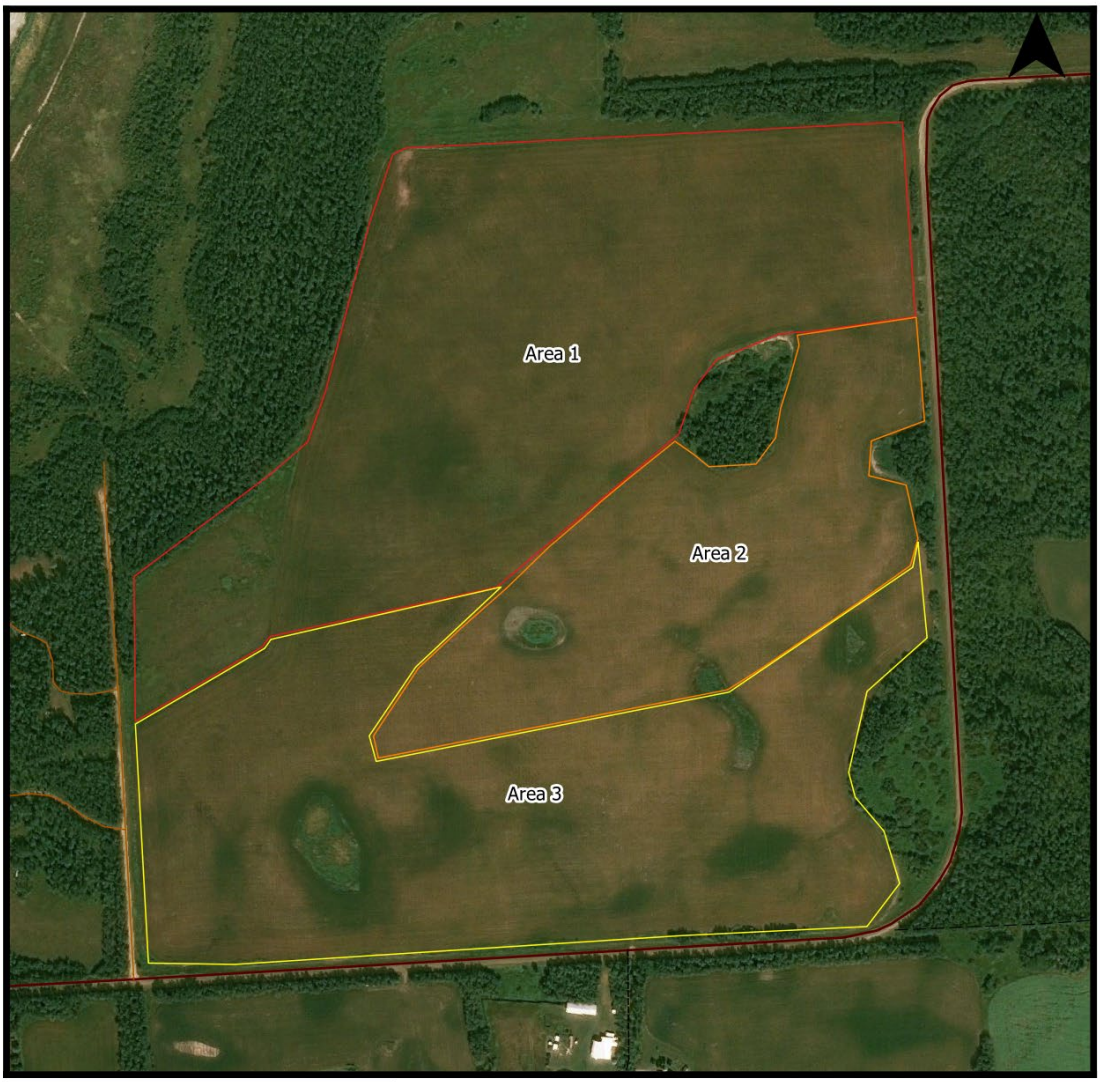
Appendix A – Map of Planting Area



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

TreeTime SERVICES INC.