

SUSTAINABILITY PLAN FOR THE NATURALIZATION GALLERY (Draft)

EXECUTIVE SUMMARY

Promoting the relationship between communities and forests, provides a multitude of benefits.

Community members benefit therapeutically from spending time in nature, among trees and wildlife. Time spent walking on the trail, within the gallery, provides relaxation, mindfulness, grounding, exercise, education, and a refuge from the fast-paced technological world. The signs, benches, and open spaces welcome the user's curiosity and imagination, which enhances the experience.

The importance of Naturalization Gallery hinges on the community involvement in activities, and enjoyment on the trail. Where the gallery is found to have meaning, the community will attach value and importance to it. The more the community uses and attends this space for well-being, education, and recreation, the more important the Naturalization Gallery becomes. Therefore, this venue needs to be promoted and included in community programming.

The importance of the future of the Naturalization Gallery stems from a communal and global responsibility. According to the UN Paris Agreement, as a measure to offset the atmospheric carbon levels and reduce the human carbon footprint, communities should engage in forest planting and reforestation. The Indigenous Acadian forest planted in the gallery will capture carbon for hundreds of years, reducing our communities carbon footprint. Consider that one tree can absorb 48 pounds of carbon dioxide per year, and will sequester one ton of carbon dioxide by the time the tree is 40 years old. Many trees planted in the gallery have a lifetime of over 100 years.

The Naturalization Gallery also serves to preserve the history of our indigenous Acadian forest and the ecosystem within them. It showcases the native forest-type that was once covering this Island, but has since been reduced to less than 10% on the Island due to agricultural land use and urban development. This plan was important to create as a stepping stone, and a guide into the future management of this space. This plan shares guidelines that support and help promote the highest potential of the Naturalization Gallery.

It is imperative that we all support this sustainability plan today and into the future. The Naturalization Gallery addresses a national and global issue as it grows, that is the adaptation to climate change. This community will recognize the benefits of carbon capturing, naturalization, reforestation and biodiversity, while reeling from the impacts from climate change. In the future, there will be profound lifestyle changes within the community. Inevitably, we

will be forced to adapt, to become more resilient, collaborative and creative. There will be a greater demand for forests and natural spaces for community to gather and discuss key issues. The gallery is recognized as a place to reconcile and reflect, to relax the mind and breathe deeply. This may evolve as global change becomes more evident.

VISION/PURPOSE

The vision for the Naturalization Gallery is to have an Indigenous Acadian forest be completely self-sustaining, and a public space to showcase this native forest. This means that there should be no human intervention and areas be left natural. The trails and treed sections should not be mowed or wiper-sipped; the grass and other ground brush should be left to grow unimpeded, as they benefit ecosystem.

The purpose of this plan is to design a guide for future utility, maintenance, and expansion to the Naturalization Gallery. We aim to create a venue where all can go to enjoy a natural(ized) area within their community and a fun place for kids to come learn about the native plants and wildlife of PEI, and their natural environment. Trails and sitting areas are already in place, and with minimal upkeep they can continue to be a much-utilized part of the site.

INTRODUCTION

The Naturalization Gallery is encompassed within the 38-acre property located on Hilltop Drive in Cornwall, Prince Edward Island, known as the Terry Fox Sports Complex. The gallery is accessible via a two-kilometer trail around the property. The trail-start can be accessed from the parking lot at 79 Hilltop Drive. The Grand Opening was held last year, June 24th, 2018 to officially open the grounds.

Naturalization refers to allowing a space to grow unimpeded, without any human intervention that would compromise growth, such as mowing or fertilizing. The idea for naturalization originated from the value in manifestation of a natural state. This gallery is unique in that it is not manicured, and provides users with the experience of a natural forest. The idea for the gallery originated from an artistic perspective, as Mother Nature's palette is discoverable throughout the Naturalization Gallery. There is no other area within the community to experience all the Island's indigenous tree species, while comfortably travelling a gravel walking trail.

Because of the establishment of the gallery, the wildlife benefits as well. The gallery provides a wildlife corridor for animals to migrate, a sanctuary for birds, plentiful fruits, nuts, and seeds. The forest will increase biodiversity and habitat quality, decrease incidents of disease, increase disease-resistance, and promote active environmental stewardship and conservation for wildlife.

THE PLAN AREA

The area spans 38 acres on a 1.8 km trail around the perimeter, known as the Terry Sports Fox Complex. This area has been seeded with the most common and rare indigenous flora of Prince Edward Island. There is no other venue with such a unique, varied, and rich display of the Islands Indigenous plants, known as the Naturalization Gallery. Within this gallery, which showcases Mother Nature, it now proudly holds every species of native trees to PEI. This accounts for 39 in total. There are also an exponential amount of native shrubs, flowers, and other plants planted throughout the grounds.

The entry pergola welcomes visitors to the gallery and is the starting point for walking tours. The Cornwall Lion's Club generously built and donated benches and the pergola, which is made from locally sourced Tamarack or Larch (Indigenous Island tree species). The property also includes three nationally registered geo-caching sites. This is a great way for people to get out and about while learning about the natural area.

The Circle of Peace is located southeast of the pergola. The pathway leads into a circle of 12 trees within a 14m circumference. Four of the trees represent the cardinal points of North, South, East, and West, and are planted as our provincial tree, the Red Oak. There are plaques with these oak trees in memory of community members who have passed. The remaining eight trees are sugar maple and commemorate the sugar maple stand that was bulldozed in the 1980's to create the sports complex. The local school teacher used to tap the sugar maple stands and, with the students, make maple syrup.

The wetland is located at the bottom of the hill, and is a property of the Jewell family. The 'L'-shaped property is wildlife habitat to many key species and is important to the hydrological cycle, storm water management, and biodiversity. This area may be restored and diversified one-day, as the habitat has been degraded by sediment run off from surrounding land use.

The trembling forest represent the native types of the Aspen species. It is a colonial grove, which stems from the parent trees several meters inside the forest. There are many indigenous wildflowers living within the trembling forest.

Black Ash and White Ash trees grace the pathway forward to the fern garden and 'Birch Corner', showcasing the indigenous species of birch on the Island. There are a variety of indigenous fern species within the garden, as well as a bug-hotel.

The Memorial Grove is a two-acre feature of the Naturalization Gallery. It offers the opportunity to purchase a designated memorial tree, as a living tribute, to loved ones and meaningful life events. The purchase includes a commemorative plaque with QR-code. When the code is scanned with a smartphone, online memories about the person can be accessed. The space is complete with a garden and benches to reflect and enjoy.

Pollinator beds are planted with a variety of indigenous wildflowers and plants, in several key areas. The Milkweed pollinator bed in front of the clubhouse on the trail, attracts Monarch Butterflies which are a threatened species, but commonly seen there. The area can be used to introduce students to a variety of topics. Students can implement the area in their research. The wildflower beds are located on the northwest and southeast corners of the trail perimeter. There are many wildflowers growing in all the areas. These have not been planted, but allowed to establish under the process of naturalization.

Elm and Willow Point

At the northwest corner of the perimeter there are several Elm species indigenous to the Island. These will provide shade for the sports fans when they establish canopy. Following the pathway leads to a display of several indigenous Willow species

Ironwood

Walking on the trail towards the Dream Park there are indigenous and non-indigenous maple. Rounding the Dream Park a lone Ironwood stands representing the strongest and heaviest wood of the indigenous Acadian forest tree species. This is a rare tree to ever see any more on the Island.

See appendix for map identifying areas and information brochure about Memorial Grove.

PLANNING PROCESS

The Naturalization Gallery is the result of a consecutive, four-year restorative initiative involving partnerships between the local municipality, public school, and non-profit environmental groups. The Terry Fox Trail Enhancement Group formed as a group of community members with a vision to reforest the area with Indigenous Acadian forest flora, and implement the gallery into the school curriculum and community programming for all.

Partnerships were established with Eliot River School, the Town of Cornwall, Macphail Woods Ecology Project, the Cornwall and Area Watershed Group, and the Terry Fox Trail Enhancement Group. Other key community members provided generous support with their time and talents.

Each year, the partners, community members, and more than 600 students from Eliot River School would engage in tree planting and mulching. This amount of effort would cost over \$100,000.00 if it were not for volunteers like these, and the cooperation within the community.

MAINTENANCE PLAN

Maintaining for optimal growth and survival is a 1-5 year goal. The flora planted in the Naturalization Gallery are not older than approximately 10

years, with the majority being less than two years of age. Therefore, it is imperative we promote optimal growth conditions while they're young. This would include, mulching, raking, weeding, and pruning to preventing damage and disease that can prove fatal. This will be the responsibility of the local watershed group.

Maintaining for forest establishment and self-sustainment is a 5-15 year goal. As the wildflowers, ferns, trees, and shrubs grow, the forest canopy will increase shade. As the flora reproduce by self-seeding or pollination the understory will rise and establish new habitat for wildflowers, enriching the ecosystem further. It is imperative that these areas be left naturalized, and it is the local municipalities commitment to ensure so.

Maintaining for educational purposes may occur indefinitely and designated areas for maintenance can be established upon request by community members to the local municipality. Implementation of an educational liaison from the public school could open support for a curriculum based program utilizing the Naturalization Gallery. The local municipality will fund and replace signage around the trail when it becomes damaged or broken, or when more signage is required.

Trail maintenance is the responsibility of the local municipality, and includes annual duties such as providing fresh gravel on the trail, addressing trail erosion and the drainage of water, promoting safety, comfort, and enjoyment.

Planning for the future requires objectives and smart goals. This sustainability plan addresses those, as well as the resources available for community members seeking involvement with managing the area in some aspect.

COMMUNITY ENGAGEMENT

The groups engaged in maintaining the Naturalization Gallery are the local municipality and watershed group, namely the Town of Cornwall, and the Cornwall and Area Watershed Group.

The Naturalization Gallery is meant to engage the community. It is recommended that the local public schools Implement visits to the gallery into their curriculum. It is also recommended that the local municipality offer programs at this location, and promote programs at this location. For example Yoga in the Circle of Peace. It is further recommended that the local watershed group implement annual programs at the gallery that promote wildlife conservation and active environmental stewardship.

By creating a space that is accessible, collaborative, educative, and promotes well-being, the community will engage in meaningful experiences for generations to come.

See appendix for a list of partners and contacts

VALUES AND OBJECTIVES

Values of the Naturalization Gallery

Biologic Diversity
Forest Ecosystem Condition and Productivity
Soil and Water
Role in Global Ecological Cycles
Economic and Social Benefits
Society's responsibility

Objectives for the Naturalization Gallery

Increase Biodiversity
Establish indigenous Acadian forest
Carbon Capturing (addressing climate change)
Educational tool
Promote recreation and wellness
Environmental Stewardship
Community Involvement

TIME LINE/GOALS

The timeline for this project as a whole has a few different end points. For the first (couple) of goals, with their representing objectives and actions, the timeline will be over the course of the next 5 years. The other goals will be on a more long term timeline which will represent the next 20 and 50 years, respectfully. The overarching goal for this area, which is why this sustainability plan is being created, is so that Naturalization Gallery can and will be self-sustaining and self-sufficient , establishing a unique venue, where visitors come to be reacquainted with the Island's indigenous Acadian forest. That is very well known. So, for what this plan will focus on is how to come to achieve the desired end-point.

The goals and their respectful objectives can be found in the list below. As the list progresses the goals move to a longer timeline. Each goal will have a corresponding time stamp in which it is felt that it can be completed by. The first few that are mentioned can be considered to be an annual need. It is of minimal work and will not add or take away from the sustainability of the area. As the list progresses the goals become broader and on a longer-term basis. The goals and their objectives, with required actions are as follows:

1. Maintaining trail system throughout the sit. Currently erosion is major problem on the trail and it is imperative it is addressed to promote safety, increase trail stability and mitigate hazards. (ANNUAL)
 - a. Addressing erosion concerns and threats.
 - i. If there is a spot where the trail is becoming damaged through means of natural causes (i.e. wind, rain, runoff, snow melt) then determine the best solution to solve the problem.
 - b. Garbage along the trails.

- i. Have a “cleanup crew” of volunteers to go around all trails once a week to pick up any trash or garbage that is floating around.
 - ii. Place garbage boxes and trash bins in key areas around the trails so that people are inclined to properly dispose of their trash. Have them bins in a fixed/locked box to detour them being knocked over.
 - c. As more of the site becomes naturalized, expansion of the trails can begin to happen (if desired).
 - i. Treed areas can have new trails through them, maintained by clearing fallen debris and ground brush.
 - ii. Continue to ensure these areas are not maintained for aesthetics (i.e. pruning, trimming, cutting, mowing, etc.).

2. Clean out and repair as needed, nesting boxes for bird species. (ANNUAL)

- a. Annual care; remove old debris and nests from boxes
 - i. Cleaning out old debris and nests allows for new birds to come in and create their home. Not all birds go back to the same nest every year.
- b. Repair/replace broken or old boxes as needed
 - i. Could create a workshop whenever this is needed to invite community to contribute homemade replacements or to have them come to the trails to make them (out of precut pieces, like a kit, so as not to have dangerous tools around).
 - ii. Have a community member volunteer their time to help rebuild broken bird houses. (i.e. same/different member each year, additional incentive from local watershed group)
 - iii. If community member does not want to volunteer, have the watershed continue with their duties of maintenance.
- c. As well as maintaining current boxes that are in place, new boxes can be established around the grounds and other structures to help increase the natural wildlife.
 - i. Bee hotels. Bat boxes. Owl prowls. All of which would follow the other objectives in maintaining, rebuilding, or replacing like the nesting boxes.

3. Plant pollinator beds.
(1-5 YEARS)

- a. Planting pollinator beds allows for self-seeding, which eliminates the need to plant flowers every year.

- i. Choose perennial flowers, blooming early, mid, and late spring/summer to ensure pollinators such as bees and butterflies have food.
 - ii. Have a mixture in each bed; do not plant one species per bed as that could lead to disease to spread.
 - iii. Plant compatible species
4. Care for trees until they are sufficiently established. (1-5 YEARS)
 - a. As trees grow from the time they are planted to the five year mark, they will have to be mulched annually.
 - i. Protection from mice during winter.
 - ii. Nutrients for growth.
 - b. As trees grow the protective guards will have to be removed.
 - i. Leaving the guards will end up hindering their growth or kill them from choking the trunk as it gets bigger.
 - c. As the trees grow throughout the years, it is imperative there will be minimal maintenance having to be done to ensure the safety and longevity of the area. (1- 25 YEARS+)
 - i. Any diseased looking trees should be cleared out of the site to make sure that other trees are not infected or have a lower chance of being infected.
 - ii. Taking out any limbs of trees that look to be a falling hazard or dead. With other dead fall in areas that are not highly used (off trail) that can be left for wildlife.

5. PROTECTION

Protection for the Naturalization Gallery means maintaining and maximizing what we already have. Protecting individual trees and the urban forest was a common theme heard during the community engagement process. Protection includes,

- Protecting the existing mature and semi-mature trees that currently provide benefits
- Ensuring that the young trees (e.g. future canopy) are healthy and have the ability to be long-lived.
- Protecting young trees from structural damage (e.g. lawn mower damage, whipper snipping, plow damage, erosion)
- Protecting trees from development and other impacts)
- Protecting the required soil habitat to grow big trees
- Monitoring and responding to destructive tree pests (e.g. emerald ash borer)
- Protecting the Town's naturalized areas and green spaces from human impacts (e.g. encroachments)
- Developing and implementing best practices for a sustainable urban forest.

Protection from future/potential development so future generations can continue to enjoy the area could include the following.

(5- 25 YEARS+)

- a. Meet requirements to be considered for NAPA.
 - i. Consider working toward the requirements meant to fall under the NAPA protect but not go through with full scale until necessary.
 - ii. Work with community and town hall to carefully consider each aspect that is needed for this; how to make it work best.
- b. Ensure a bonding agreement between all parties involved to continue the up keep of the Terry Fox Trails in all future events.
 - i. Within this sustainability plan have an agreement which people need to sign after completion of final copy to bind them to the protection from development in the future.
 - ii. Have a separate document for a new or incoming person(s) through the watershed or town hall/council to ensure protection of the site.
- c. Enlist help of community to take part in keeping the area natural and protected from the possibility of development.
 - i. Make it known throughout the community and the years that the area is intended to be a natural(ized) area, not to be trimmed and maintained for atheistic reasons (i.e. cutting, trimming, mowing, whipper-snipping, etc.).

6. Have therapeutic, education(al) and/or recreation(al) components within/throughout the Naturalization Gallery, promote the space as a unique Island venue to witness the indigenous Acadian forest.

(1-25 YEARS +)

- a. Educational – Create different tools to help teach children and adults alike about the area and about the numerous species of native flora.
 - i. Scavenger hunt for specific items (i.e. white spruce, bayberry, hemlock, larch, etc.)
 - ii. Signage with descriptions of how to identify and differentiate between species, both flora and fauna.
 - iii. Sound booth/audio booth for bird calls and other wildlife calls.
- b. Recreational – Build program opportunities that can help promote the use of the site to help the community enjoy and utilize it.
 - i. Have different events be held at the grounds, organized by community members, town council, CAWG.
 - Guided Interpretive Walks/Tours
 - Yoga classes/Meditation Classes
 - Music/Fun/Multicultural Festivals
 - Forest Workshops

There are endless opportunities that can be had with a space of this size, especially with the possibility to expand and grow in the future.

ii. If events are to be scheduled, create a go-to calendar where people can have a signup sheet as to not over book or crowd the space.

- As that it is a naturalized space, consider limiting amount of events, if not the larger events. This will limit the possibility of damage to the areas used (i.e. Trash left, grassed areas under pressure, stress to the area, etc.)
- Smaller events can have a separate signup and be organized as they come up.
- Make sure that there is a committee or clean up volunteer group available for after events to go make sure things are properly dismantled, disposed of, and take an inventory of what (if any) damage is done or if there is a need for anything to be replaced/repaired.

5 YEAR GOAL:

Future Maintenance (Friends of the Trail):

The town of Cornwall has demonstrated exemplary practices in maintenance and grooming of existing natural spaces. *Friends of the Trail*, a user based volunteer group will work, in conjunction with Cornwall, to supplement extra maintenance requirements. Annual pruning, raking, clean up etc. will be necessary. In addition, with the support of the Town of Cornwall Council we would like to establish an Annual Fall B.B.Q and Clean-up of the property. The principal of East Wiltshire School, Windsor Wight, has also indicated that the school would support the Duke of Edinburgh students' involvement in the annual maintenance program. They require volunteer hours of community work to successfully complete the requirements for the award. In addition, we will be inviting the conservation classes from Bluefield High School to participate in our annual maintenance program.

In addition, we have been very fortunate in the last couple of years to have the assistance of various corporate groups, and we anticipate future growth in this area as the awareness level spreads. (The Moonlight Foundation, Charlottetown Rotary, CIBC, D.V.A. ,The United Way etc.)

Appendices

Map of Naturalization Gallery

Memorial Grove

The current plan is to use the trees already planted in Memorial Grove and not to import any more larger trees.

We suggest that the cost of these trees be \$200.00 per tree.

Persons purchasing a Memorial Tree will have the opportunity to write a 2-page biography (maximum) about the person being memorialized. A QR code will be attached to each memorial plaque next to the tree and will allow people to scan it to read the biography of the person, including names and dates of that persons life. Persons wishing to see samples of this plaque can view them in the Circle of Peace.

Stone Tablet – Kool Breeze Farms, Summerside.

Plaque for Tablet – Chucker’s Trophys, Exhibition Drive, Charlottetown.

In creating the plaques, LePages PL 9000 adhesive was used to attach the plaque to the stone and a silicone caulking around the edges to seal it from water damage.

It is also suggested that people should be encouraged to purchase their trees in the spring so the necessary work can be done for an early summer dedication ceremony and the QR code can be created while the students are still in school. A list of the tree species available for purchase will be created once the trees have come into leaf in the spring f 2020.

The care and maintenance of the Memorial Trees will be looked after by the committee and the Town of Cornwall. We are hoping to set up some annual maintenance with Leadership students at East Wiltshire and Conservation students from Bluefield. These students require community volunteer hours to achieve their credit.

We suggest that should a purchased tree fail to grow due to winterkill, vandalism, etc., another tree can be selected at no cost to the person(s) purchasing the original tree.

The patio in the Memorial Grove was created in 2017 and is the central point of the grove. In addition to the memorial trees in the grove, the patio holds benches that have placed there for users and have mounted on them memorial plaques for loved ones.

List of partners and contacts

List of programming opportunities

List of Native/Indigenous species of Prince Edward Island