

Final Draft June 2020

Killarney Lake Park MANAGEMENT PLAN



Fredericton

Prepared for the City of Fredericton by

The Planning Partnership

2020

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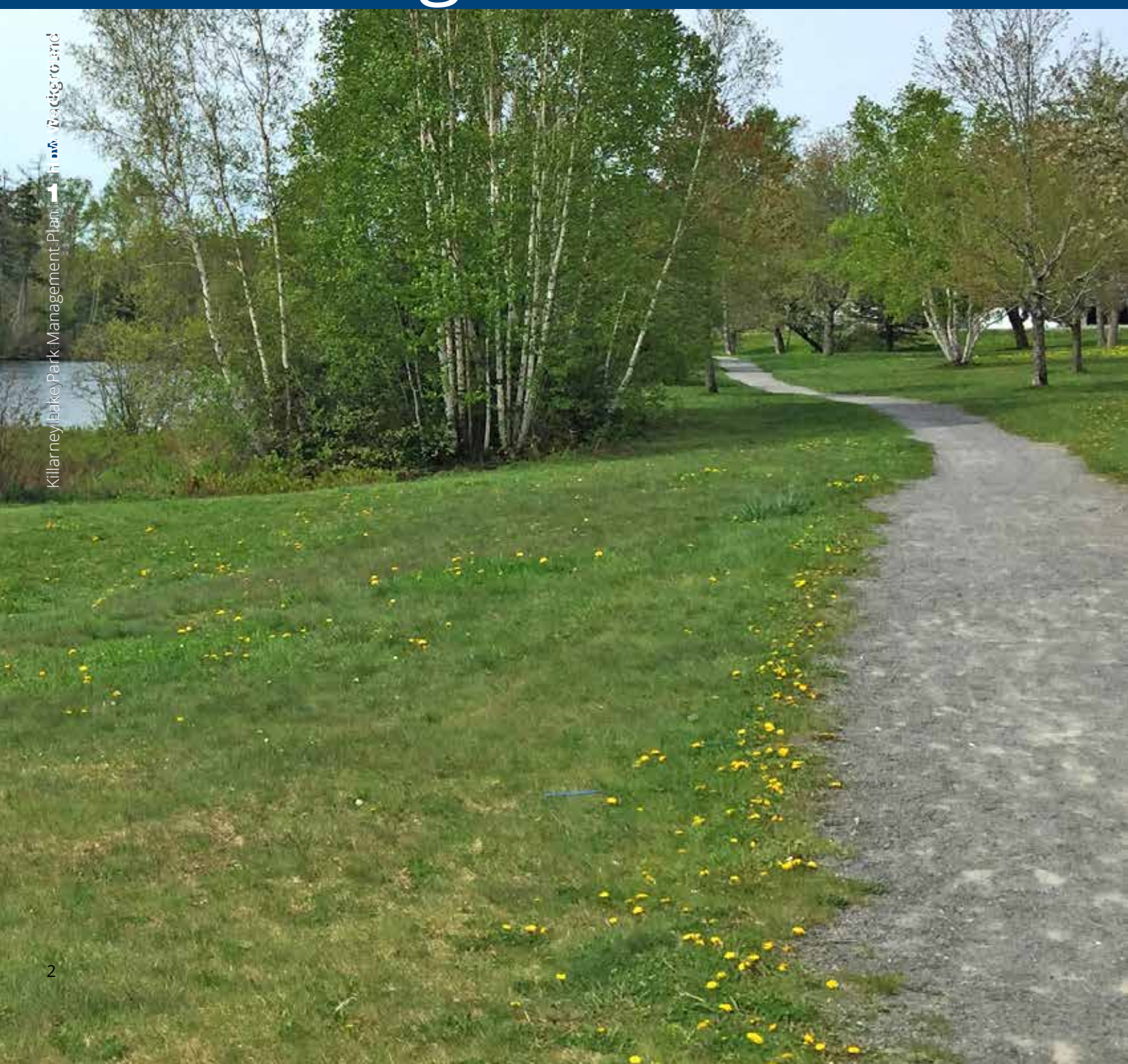
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1 Background





1.1 Killarney Lake Park in Context

Killarney Lake Park today is, by far, Fredericton's biggest park at about 645 hectares. This urban treasure represents over 55% of the City's public parkland. Killarney Lake Park is a Regional destination for hiking and off-road cycling, as well as cross country skiing, and is only growing in popularity with a professionally designed ski trail system and proposed plan for off-road cycling.

The park is appreciated by Frederictonians for its natural environment areas and its diverse recreational opportunities. It has something for everyone, including swimming in Killarney Lake. Very few cities can boast of a park of this magnitude and significance, especially with a natural lake. Killarney Lake Park is important in achieving goals set by the City's growth strategies, in providing access to natural green spaces for health and recreation.

The park serves many people. It is both a city wide destination and local community asset. The park is visited daily by the people of Fredericton, but also by people from Atlantic Canada and beyond. Its attraction lies in its amazing variety of landscapes and activities.

Killarney Lake Park is over twice the size of New York City's Central Park. Given its size, scale, location, natural features and capacity, Killarney Lake Park has great responsibility to serve the City of Fredericton, and it is imperative to create a Management Plan for the park that ensures it will be healthy, vibrant, and sustainable for the generations to come.





Killarney Lake Park is 645ha, over twice the size of New York City's Central Park at 341ha.



1.2 Purpose

The plan is meant to be a guiding document that sets the framework for the evolution of a Regional park. The plan will guide future decisions, key projects and investments under a common vision developed by the community and staff. The purpose is to:

- Identify significant natural features within the park and establish a system for classifying how land is used: Management Zones. The natural features will help define what recreational opportunities are appropriate and to what intensity they should occur.
- Operate the park as a balanced ecological and recreational destination.
- Provide the basis to develop an Eco-tourism and Sport tourism Strategy.
- Manage change in the park as the City's population grows and pressure on the park increases.
- Design all elements to be inclusive and accessible.
- Provide recommendations for park wide initiatives that improve the user experience and help resolve conflict.
- Provide recommendations for capital projects.
- Provide guidance for near, medium- and long-term projects to be further defined in the future.





This plan is rooted in the goal of achieving the right balance between ecology and recreation. What we build, the way people move and what we learn about the park grow from there.

Roots of the Plan



1.3 History

Killarney Lake has long been a centre of attraction in the region. Prior to the establishment of the park proper, the lake was used for recreational purposes such as swimming and boating. Over time the lake became overgrown and in the 1970s the Fredericton District Labour Council revived the lake and beach for use. This was followed by the Fredericton Recreation Department adding change rooms, toilets, a small playground, and better parking facilities. To improve recreational opportunities, the lake has been stocked with fish, mostly brook trout, annually in the spring and fall since 1958 for fishing.

The birth of Killarney Lake Park as it exists today can be attributed to the 1977 Fredericton Municipal Plan, which stated, *“it will be the intent of the City to ensure the provision of a large passive park (similar to Odell Park) on the north side of the Saint John River encompassing Killarney Lake, the rifle range and stream valley slopes connecting the two.”*

In creating a large urban ecological and recreational park, the City had support from the Fredericton Field Naturalists’ Club, Fredericton Fish and Game Association, the Fredericton Kiwanis Club, and the City of Fredericton Tree Commission. In 1979, Zoning By-Law 450 was adopted. Under this By-Law, 750 hectares was zoned for park purposes and the city began to purchase land for the park with rough boundaries defined by watersheds, physical landforms, property lines, and desirable access points. In 1981, the Community Services Committee asked City Council to establish a board which could oversee the development of a park in the Killarney Lake Region. The result of this was a park by-law appointing the Killarney Lake Advisory Board.



Three primary criteria were established:

1. Protect the Killarney Lake watershed area
2. Link the park with the rifle range
3. Link the park with Marysville

A detailed resource analysis was conducted in 1982 followed by a field inspection by naturalists in 1983. Through the development of the plan, background information was made available to St. Mary's First Nation, Fredericton Tree Commission, North Side Rotary Club, and Fredericton Orienteering Club.



Map from Killarney Lake Park and Recreational Area Conceptual Plan, 1985



Proposed Killarney Lake Park Development Concept

Partnership with St. Mary's First Nation

Killarney Lake Park lies within the traditional territory of the Wolastoqiyik First Nation. The management, development and improvement of the park should include St. Mary's First Nation as an important partner and contributor. A long parcel of St. Mary's First Nation lands bisects the park in a north-south direction, dividing the park proper into two discrete sections. This is an opportunity for the City of Fredericton and St. Mary's First Nation to collaborate in the stewardship of these natural lands. Future opportunities for collaboration and partnerships with St. Mary's First Nation should be explored. Developing and maintaining continuous corridors for habitat, wildlife, hydrological function and public access across these lands is an important principal of this management plan along with a comprehensive trail network.

A collaborative partnership regarding the development of Killarney Lake Park, will advance truth and reconciliation between the City of Fredericton and St. Mary's First Nation.





1.4 Engagement — Community and Stakeholders

There were a series of engagement events which were organized by the City as public forums to capture the ideas and aspirations of the residents of Fredericton. From May of 2017 to October of 2019 park users, special interest and user groups, school children, visitors, and interested individuals were engaged in the visioning process that led to these Management Plans. The process also included in-depth discussions with City, government officials, agencies and specialized consultants.

Residents:

Conducted an on-line survey on existing park use and future themes for development.

Conversations:

Gathered thoughts and ideas from schools, special interest groups and staff regarding ecology and recreation in the park. Groups included Wostawea Cross Country Ski Club, River Valley Cycling, St. Mary's First Nation, Fredericton Disc Golf, Fredericton Naturalists, UNB, and the Department of Natural Resources.

Workshops:

Delivery of design concepts at a community workshop at Willie O'Ree Place that resulted in park development ideas and park management suggestions.

Open House:

Hosted a feedback session at the Convention Centre which allowed all participants to review and comment on the articulation of their ideas (Draft Plan Format).





2 Where We Are Now



2.1 Planning Context — What Guides the Plan

Fredericton Municipal Plan (January 2020)

Killarney Lake Park was acquired by the City for the specific purpose of providing further recreational use, given the limitations imposed on Odell Park by the Provincial Act. In 1985, the City prepared the Killarney Lake Park and Recreational Area Conceptual Plan, which has guided decision making since. That document is at the very end of its planned time frame, and it is time to create a new Management Plan.

The City of Fredericton's Municipal Plan emphasizes that parks and natural areas are integral public infrastructure contributing to a liveable, dynamic and economically vibrant City. Key objectives related to Killarney Lake Park include:

- Develop a City-wide network of trails, parks and natural areas.
- Provide sufficient space for programs and facilities for year-round recreation and leisure.
- Provide programs, services and facilities that are responsive, accessible and affordable.
- Develop tourism opportunities on both sides of the river.





Fredericton Growth Strategy (Adopted by Council June 2017)

The Growth Strategy identifies the community's vision to retain and enhance the environment and activity in Fredericton's parks. Key objectives related to Killarney Lake Park include:

- Design for active and passive use by people of all ages and abilities in all seasons.
- Protect valued and significant natural features.
- Develop a park system with a diversity of parks that celebrate nature and encourage a range of outdoor and indoor sport and recreational activities in all seasons.

The Recreation Master Plan (November 2008)

This plan provides detailed guidance on the development and enhancement of recreation systems in the City.

By-Law No L8, A By-law Respecting Parklands

Code and conduct in all municipal parks are mandated through this by-law and overseen by the Director responsible for Parks.

Trails / Bikeways Master Plan

The plan envisions a well-connected network of cycling routes throughout the downtown core and extending to the suburban fringes of the City.



2.2 Fredericton's Park System

Fredericton has an extensive network of parks and public open spaces. A diverse, well designed park system plays a key role in improving the quality of life for residents and visitors alike. There are 1350 hectares of designated parkland in Fredericton. Some parks serve their immediate neighbourhoods with children's playgrounds and informal grass fields and trails. Other parks are community wide parks with pools, tennis courts and sports fields. There is also an extensive waterfront trail along the Saint John River (Wolastoq). Each of these parks and open spaces has a specific relationship to its local neighbourhoods and to the broader City that is reflected in its facilities and capacity.

Regional parks are a new concept in Fredericton's park hierarchy that reflects the special nature of Odell and Killarney Lake Parks. The park hierarchy has four general categories:

Regional Parks (Odell & Killarney Lake)

Municipal Parks (Carleton & Wilmot)

Neighbourhood Parks

Pocket Parks

The City meets residents recreational needs with a system of parks and open space well distributed through the City. Regional parks will serve as the anchors to the park network and simultaneously provide residents and visitors diverse recreational opportunities. Odell Park is 160 hectares, representing 12% of municipal park space. Killarney is 645 hectares, representing 48% of municipal park space.



3 Where We Want To Go





3.1 Opportunities and Challenges

Opportunities

One of the oldest uses of Killarney Lake Park is still among its best: swimming. It is one of the few places in the City where families can safely swim in a natural body of water. It is also a major winter destination with some of the best cross-country ski trails in the City and the Maritimes. Killarney Lake Park has tremendous opportunity for other recreation and tourism uses.

Scale

- The scale of the park is vast, and it can accommodate a wide range of active recreation, for competitions, sport tourism, and other economic development activities.
- The scale helps ensure there are no conflicts between uses, such as between walkers and bikers, because there is plenty of room for each.

Sports and Active Outdoor Recreation

- There is plenty of space for a variety of outdoor sporting activities in both summer and winter.
- An example of the above is a conceptual plan for off-road mountain biking (2017) that can be developed into a comprehensive trail system in the park.

City Ownership

- With the development of the municipal plan is an opportunity to re-zone three parcels of City owned land surrounding the lodge and parking area into park land. This land has been used as parkland since the lodge was built and should continue to be treated as parkland in the foreseeable future.
- Building a positive working partnership with St. Mary's First Nation in areas of mutual interest.
- Developing formal partnerships with interested user groups and harnessing collaboration and contribution from residents and user groups as volunteers, fundraisers and grant recipients can help make many of the initiatives in this plan become a reality; for example, working with Wostawea and mountain bikers.



Challenges

Killarney Lake Park's size and scale create opportunities, and at the same time, pose challenges.

Scale

- The size of the park makes Killarney Lake Park difficult for people to fully access.
- The size and location of maintenance areas make it hard for City staff to properly access and maintain the park.
- There is a high proportion of invasive species in the understory of Killarney Lake Park's forests which is difficult to access and control.

User Group Capacity

- Some user groups, such as Wostawea Cross Country Ski Club, are at capacity in terms of existing infrastructure. The City, in consultation with user groups, should consider ways to improve the existing lodge to accommodate current and future needs.

City Ownership

- The current municipal boundary of the City of Fredericton does not fully encompass the boundary of Killarney Lake Park. While the City owns the park land and will continue to operate it as a municipal park, it is the City's goal to bring the entire area of Killarney Lake Park within the municipal boundary through a boundary adjustment (see Proposed City Boundary Expansion map in Appendix, page 57).
- Two distinct park areas straddle the St. Mary's First Nation lands.
- There is the potential for a planned, future municipal transportation corridor to further segregate different areas of the park. While the corridor is not likely to happen during the lifespan of this Management Plan, many of the recommended projects will need to be mindful of this future development plan (see Future Transportation Connections map in Appendix, page 56).
- The map on page 56 also illustrates an active transportation link from the east side of the park to downtown Fredericton (along the Nashwaak Trail)
- The City should continue advancing AT connections to the park from St. Mary's Street and Brookside Drive. Additional pedestrian crossing infrastructure will likely be required for safely crossing St. Mary's Street given the provincial highway function of the roadway.

3.2 Management Strategy: Accommodating Ecology and Recreation to Foster Sustainability

Killarney Lake Park and Odell Park sit at the top of the park hierarchy in a system of parks that is both diverse in recreational opportunities and vast in terms of land.

These parks are designed to complement one another toward a sustainable future. They are being considered together because in 1985, council adopted the Killarney Lake Park and Recreation Area Conceptual Plan. The intention of this plan was to develop a park capable of providing the recreational needs that Odell Park did not have the capacity to absorb. Much work has been done over the past decade to acquire additional land for park use and develop areas for play and sport. Killarney now has the capacity to take this development to the next level, that of a regional sport /competition hub, for activities such as cross-country skiing. This approach will ensure that established recreational activities, such as walking, biking, swimming, continue to thrive at the appropriate scale.





4 How We Get There





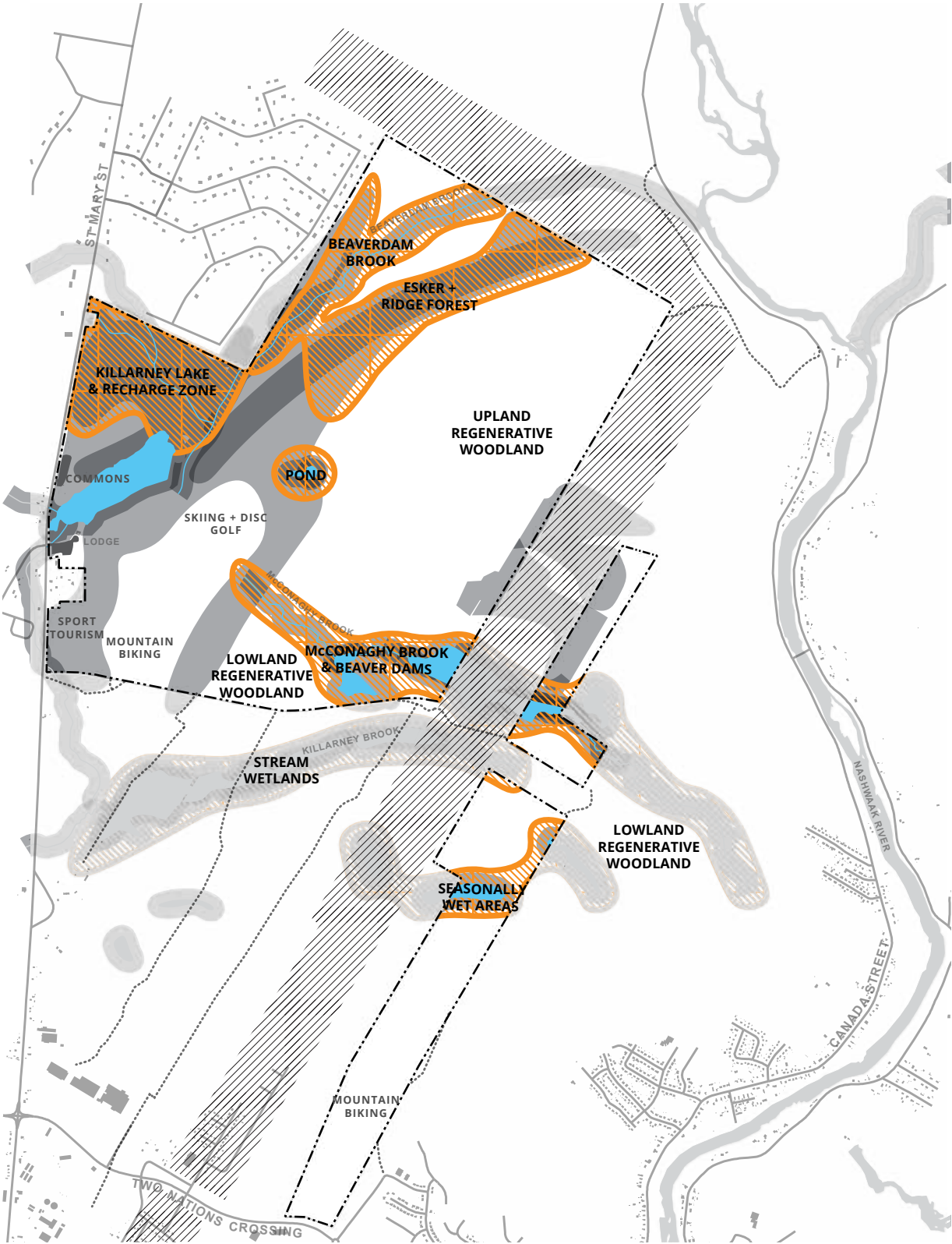
4.1 Management Zones




The land area within Killarney Lake Park has been classified according to four Management Zones: Conservation, Natural Environment, Recreation and Sport Tourism. Each has a different approach to the type of activities that the area can support, and the kind of management that will be used to steward the natural and cultural resources. This is based on an analysis of the ecological sensitivities of the existing conditions of the park.



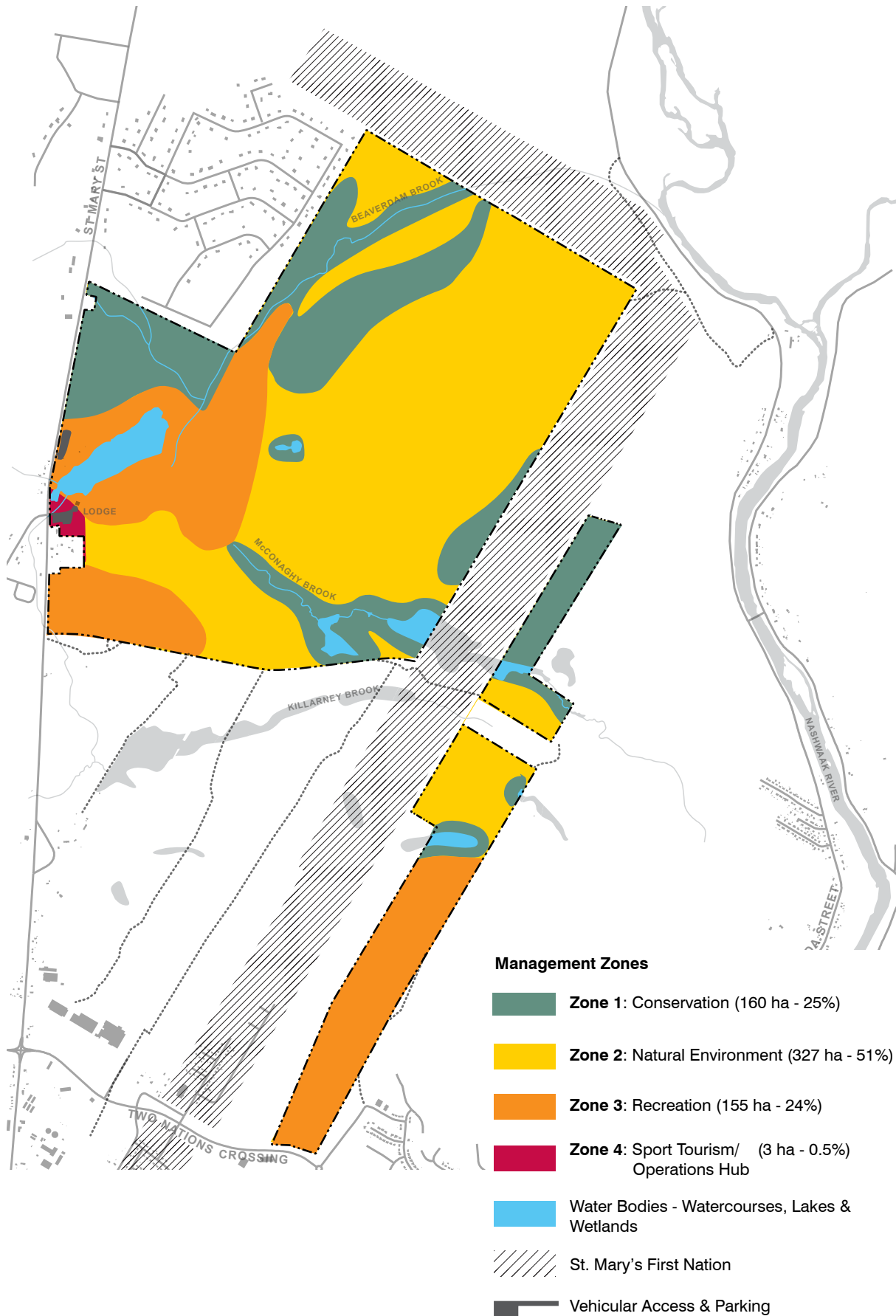
The Management Zones are based on an analysis of the ecological sensitivities of the existing conditions of the park. This analysis considered UNB biological surveys, city GIS data, historical data from past management plans, and present-day site observations.

Map 1: Ecologies/Natural Features



-  Established Ecologies
-  St. Mary's First Nation
-  Water Bodies - Watercourses, Lakes & Wetlands

Map 2: Management Zones





Use by Management Zone

The chart below identifies the uses that are permitted in each Management Zone. The four Zones represent a gradation in use from, at one end of the scale, more ecologically-oriented uses, to the other end of the scale with more human-centred uses. Uses within the Conservation and Natural Environment Zones are restricted to low-impact activities that do not compromise ecological processes, whereas uses within the Recreation and Sport Tourism Zones are higher impact and more varied, as these Zones are located where ecological function is manageable. While Conservation and Natural Environment Zones permit similar uses, in Conservation Zones priority is given to the ecology, for example, by ensuring trails are built in a way to protect the sensitive forest floor.

Use	 CONSERVATION	 NATURAL ENVIRONMENT	 RECREATION	 SPORT TOURISM
Walking trails	✓	✓	✓	✓
Ecological & cultural heritage interpretation	✓	✓	✓	✓
Wildlife viewing	✓	✓	✓	
Biking / Fat biking	*	✓	✓	✓
Skiing (informal, ungroomed)	✓	✓	✓	✓
Skiing (groomed trails)	* *		✓	✓
Snowshoeing	✓	✓	✓	✓
Orienteering (existing trails)	✓	✓	✓	✓
Hiking	✓	✓	✓	✓
Trail running	✓	✓	✓	✓
Trail heads			✓	✓
Disc golf			✓	✓
Parking			✓	✓
Children's play area			✓	
Sports fields			✓	✓
Picnic shelter			✓	
Lodge			✓	✓
BBQ stations			✓	
Washroom			✓	✓
Maintenance yard			✓	✓

*Only when approved trail design/construction methods can prevent ecological impact

**Existing groomed ski trails will remain in the Convservation Zone

Management Zone 1



160ha
(25% of total Killarney Lake parkland)

CONSERVATION

The first Management Zone is defined by areas driven by ecological needs. These are the areas where we frame and direct a user's experience. It is important that meaningful interactions between people and these natural environments continue, but these are the particularly important areas where people and activities will be limited to prioritize natural processes.

The sorts of activities allowed in this Management Zone are as follows:

Walking Trails – To access these areas.

Elevated Boardwalk – To minimize ground disturbance.

Guided Trails – To frame and direct the user experience to promote stewardship and provide opportunities to interpret the natural features.

Cross Country Skiing – On existing trails only.

There are a variety of ecological units that comprise the Conservation Zone within Killarney Lake Park. The following ecological units can occur singly or in combination with each other.





Key Features — Zone 1

Killarney Lake & Recharge Zone

Characteristics

Water from the adjacent esker infiltrates here, recharges groundwater and supports healthy forest development

Significant habitat and evidence of breeding fauna

Deer habitat, particularly for overwintering

Objective

Preserve the sensitive forest and groundwater recharge area

Minimize human disturbance

Key Management Items

Close unsanctioned trails over time

Convert sections of existing trails to raised, guided trails where sensitive ecologies exist, to limit compaction and other disturbance

Operations staff are responsible for implementing trail types appropriate to conditions including: raised & guided and typical with crushed stone granular surface. Refer to Trail Types on page 48

Restrict human access during spring breeding and fall migration periods



Esker and Ridge Forest

Characteristics

Remnant glacial feature and source of the water for the recharge zone

Ridge line follows the length of Beaverdam Brook

Most dramatic slopes in Killarney Lake Park

Objective

Preserve semi-mature trees along the ridge

Minimize human disturbance, particularly erosion which can degrade the slopes

Key Management Items

Close unsanctioned trails over time

Convert sections of existing trails to raised, guided trails where sensitive ecologies exist, to limit compaction and other disturbance

Operations staff are responsible for implementing trail types appropriate to conditions including: raised & guided and typical with crushed stone granular surface. Refer to Trail Types on page 48

Develop a series of overlook locations to take advantage of scenic views or areas of outstanding natural beauty

Monitor forest edges for invasive species and remove them immediately



Streams and Water bodies

Characteristics

Permanent streams and riparian systems, including beaver ponds

Important tributary watercourses

Objective

Create healthy riparian systems including a continuous, woody biomass transition from surrounding woodland to the water feature

Establish an ecological buffer zone around water features to help improve water quality

Allow the woodland to continue natural succession and regeneration

Minimize trails

Key Management Items

Remove invasive species

Monitor and manage species composition to create a successional ecology of native vegetation in disturbed areas

Allow beaver dams to continue in watercourses to assist with water management and quality

Do not remove fallen trees and vegetation from water bodies as they provide important habitat

Operations staff are responsible for implementing trail types appropriate to conditions including: raised & guided and typical with crushed stone granular surface. Trails will be perpendicular to the riparian zone to minimize impacts. Refer to Trail Types on page 48

Decommission any trails within the buffer zone that follow the water feature

Monitor forest edges for invasive species and remove them immediately





Management Zone 2



NATURAL ENVIRONMENT

327 ha
(51% of total Killarney Lake parkland)

Zone 2 is defined as areas that while still rich in natural features, the natural features themselves are less sensitive to development and recreation. These areas allow for some increased level of activity. Staying on the trails will still be encouraged, but the associated level of disturbance is deemed to be less significant to the adjacent natural features.

The sorts of activities allowed in this Management Zone are as follows:

Walking Trails – To access these areas

Activity Trails – To access these areas with more intensity

- Biking
- Skiing
- Hiking
- Trail Running
- Orienteering
- Snowshoeing

The key natural features that comprise Zone 2 are as follows.



Upland and Lowland Regenerative Woodland

Characteristics

Area was formerly logged and forest succession is in progress to varying degrees

Upland areas are represented with more hardwood species

Lowland areas are typically mixed forest species with more low oxygen and moisture tolerant species

Objective

Allow the woodland to continue natural succession and regeneration

Sensitively place new trails for human enjoyment

Key Management Items

Monitor species composition

In areas of lowest ecological function, consider selective planting to accelerate successional ecology of native vegetation, in combination with invasive species removal

Re-assess area in 20 years for potential **patches** to reassign, as capacity allows, to Conservation Zone

Operations staff are responsible for implementing trail types appropriate to conditions including: existing logging roads and typical with crushed stone granular surface. Refer to Trail Types on page 48

Succession

The process of biological communities evolving over time is succession. In a forest, there are certain plants that specialize in colonizing bare ground, followed by those that are specialized for intermediate stages because they out-compete the colonizers. Lastly are climax species, which, if left undisturbed, will dominate the forest in perpetuity.



Management Zone 3



155 ha
(24% of total Killarney Lake parkland)

RECREATION

The third management area is defined by areas that can support a greater intensity of activity. The park is greatly loved for its recreational opportunities, and these more intense activities should be thoughtfully located and designed so as to preserve the ecological functions of the park to the greatest extent possible.

The sorts of activities/infrastructure allowed in this Management Zone are as follows:

Ball Fields

Disc Golf

Outdoor Theatre

Picnic Shelter

Lodge

Beach Use

Cross Country Ski Terrain Park

Biking

Trail Heads

Washrooms

Parking



Objectives

- Provide for human use and enjoyment, for people of all ages and abilities
- Create a Gateway Commons at the main park entrance that provides parking, visitor services, and a range of recreational, educational and interpretive opportunities
- Create new park gateways and trail heads from surrounding streets
- Create linkages between activity areas
- Create Accessible routes to major destinations
- Provide for ski and bicycle trails and tracks
- Design and build a cross country ski terrain park in partnership with cross-country skiers

Key Management Items

- Rake and maintain sand at the beach. Import sand as required
- Monitor water quality to protect swimming
- Develop a public education program to encourage behaviour that safeguards water quality
- Carefully consult and plan new walking trails, ski trails, disc golf, bike trails and bike parks to minimize ecological disturbance.
- Operations staff are responsible for implementing trail types appropriate to conditions including: existing logging roads, typical with crushed stone granular surface, ski trail, and single track trail. Refer to Trail Types on page 48



Cross Country Ski Trails and Disc Golf Course

Objectives

To develop competition-calibre cross country ski race course and associated recreational ski trails

To develop a championship-level 18 hole disc golf course which can host elite events within the cleared ski trail areas (summertime use) or designated fairway corridors

Key Management Items

Operations staff are responsible for implementing trail types appropriate to conditions including: existing logging roads, typical with crushed stone granular surface, and ski trail. Refer to Trail Types on page 48. Please refer to the Killarney Lake Trail System Conceptual Design

Work within the existing, cut ski trail corridors wherever possible

Develop loops of varying length and challenge to appeal to all skill levels

Clear shrubs, seedlings and successional vegetation from the ski trails and disc golf

While some existing ski trails are in Conservation and Natural Environment Zones, all new trails should be in the Recreation Zone. Ski trails are the widest type of trail and should be placed to minimize ecological disturbance to habitat patches and large tree specimens. Trails will be designed in situ with the expertise of staff, trail designers, user groups and ecologists to determine construction methods and establish new trail design.

Work with local disc golf groups, Wostawea and other user groups (as relevant) to site and design the course

Work with park user groups to develop maintenance standards for grooming and clearing of trail corridors

Install trail-use guideline signs that clearly describe how trails are to be used, and by whom



Mountain Bike Competition Course and Tracks

Objectives

To develop competition-calibre mountain bike and cyclocross race courses and associated recreational bike tracks

Key Management Items

Operations staff are responsible for implementing trail types appropriate to conditions including: existing logging roads, typical with crushed stone granular surface, and single track trail. Refer to Trail Types on page 48

New bike tracks should be in Recreation Zones. New bike trails are permissible in Natural Environment Zones, where special consideration is given to conserving significant tree stands and slopes. They should not be cut through Conservation Zones except for brief stretches where required for access

Carefully locate new competition bike tracks, and the access tracks leading to them from the Gateway Commons/ Sport Tourism Zone, to minimize ecological disturbance. New trails will be designed in situ with the expertise of staff, trail designers, user groups and ecologists to ensure the integrity of natural systems are preserved while interesting and challenging trails are constructed.

Clear debris and fallen trees from tracks

Partner with local cycling groups to plan, design and maintain the tracks

Develop loops of varying length and challenge to appeal to all skill levels



Management Zone 4



3 ha
(0.5% of total Killarney Lake parkland)

SPORTS TOURISM / OPERATIONS HUB

The fourth Management Zone is for Killarney Lake Park alone. This Zone is meant to embrace larger events that have different requirements in order to proceed. With this would come the need for expanded parking areas and facilities in general in order to support the pressures of an event of this scale. In the Sport Tourism Zone, infrastructure and permitted uses are focused on human recreational value.

The sorts of activities/infrastructure allowed in this Management Zone are as follows:

Event parking that can expand and contract

Operations Hub to promote sports tourism and increase scale of events

Competition Hub

Objective

Create a centralized destination for high intensity competitive outdoor sports with a focus on cross country skiing, cycling, and disc golf

Utilize existing infrastructure and provide opportunities for new shared infrastructure to support events, such as the Lodge, washrooms, and parking. Explore increased use within the existing lodge activities such as cross country skiing and cycling

Ensure flexibility for different events

Provide power, water and event infrastructure

Provide direct vehicular and/or pedestrian connections to the park entrance, parking (permanent and overflow), washrooms, and competition trails

Key Management Items

Provide large open grassed areas for parking, staging, spectators, and event facilities

Develop an operations manual for planning, hosting, and clean-up of sport tourism events including circulation, logistics, and site servicing

Mow turf areas and remove vegetation

Create overflow parking lots in the grass areas that can be used for recreation when not needed for parking. Delineate their edges with trees

After significant parking events in the overflow parking lots, patch seed native grass species

Periodically evaluate compaction within overflow parking lots and engage light decompaction where necessary

Snow should be removed mechanically, where necessary, rather than chemically

Operations staff are responsible for implementing trail types appropriate to conditions including: raised and guided, typical with crushed stone granular surface, ski trail, and single track trail. Refer to Trail Types on page 48





4.2 Management Approaches

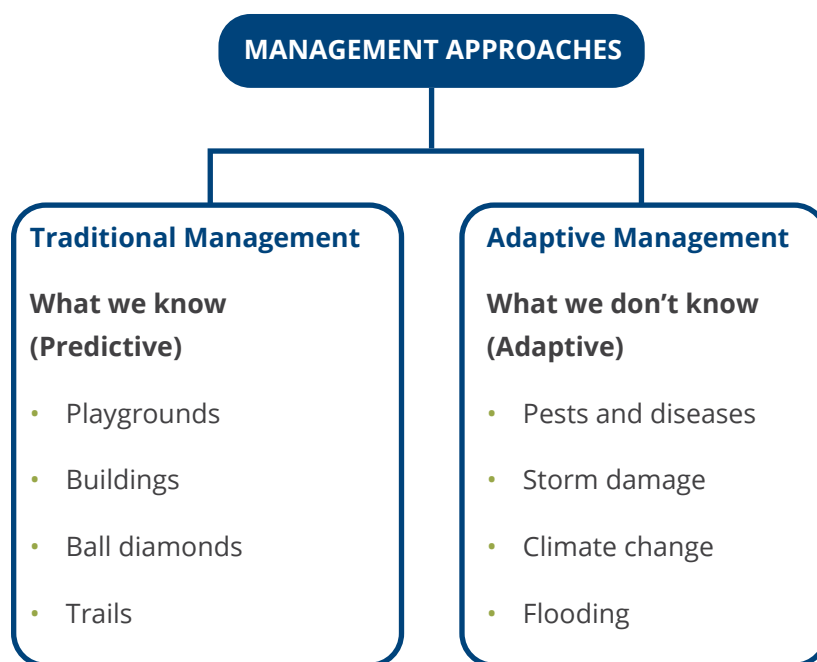
The plan proposes a two-tiered approach to managing the development of Killarney Lake Park; Traditional and Adaptive.

The first tier (traditional management) is applied largely to managing infrastructure projects and meets the corporate objectives around delivery of our services. This approach ensures the allocation of resources to existing and future planned asset implementation.

Adaptive management ensures a more timely response to threats on our resources. It is applied to the unknown occurrences that affect the natural resources in our parks. Its advantage comes in the form of research, metrics and a constant cycle of learning as solutions are implemented. It requires collaboration from UNB, GNB and other municipalities with similar issues. An example of where we are applying this approach is in dealing with the Emerald Ash Borer, as it will affect a large portion of the forest in Killarney Lake Park. A City-wide plan for this pest is in progress and UNB has been a partner with the City in developing an inventory and location of ash within the park.



Two-Tiered Park Management Strategy





Responsibility for Following the Plan

Successful implementation of this park plan requires clear ownership and accountability within the City organizational structure. It is recommended that the City designate a staff person as well as a City department that will assume responsibility for implementing the park plans.

Strategies

Use of motorized equipment by the general public such as all terrain vehicles, snowmobiles, and drones should be prohibited.

Develop an Environmental Emergency Response Plan for storms, wind, ice, flooding, drought and disease events.

Consider developing an Emergency Response Plan.

Limit loud noises during sensitive spring breeding periods.

Create resilient vegetation communities.

Ensure the overwhelming majority of new vegetation is native to New Brunswick. Use non-native vegetation only within the Recreation and Sport Tourism/Competition Hub Zones and where it has no invasive potential (e.g. for floral display). Ensure it is carefully monitored.

Mitigate against pests, disease and invasive species by promoting diverse, native vegetation (including native species, associations and spacing).

Develop an Integrated Pest Management (IPM) Plan for identified and unknown pests. Avoid broadcast chemical controls.

Develop ties to local plant suppliers to secure local plant materials that are adapted to Fredericton's environmental conditions.

Use calliper trees within Recreation and Sport Tourism Zones, and seeding, live staking, and small calliper plantings within Conservation and Natural Environment Zones.

Catalyze successional forests (ie. Use forest species that are found in healthy and comparable nearby forests) in areas without sufficient vegetative cover, or immature cover, such as steep slopes. Use inexpensive young tree seedlings to maximize coverage.

Foster regenerative woodlands in disturbed areas.

Develop a monitoring program for potential invasives (e.g. Asian Long Horned Beetle) Adaptive Management Approach).

Preserve and enhance higher potential habitat patches through the park.

Develop species-specific management plans to encourage rare/keystone species (Adaptive Management Approach).

Develop importation guidelines for soil and vegetation that specifies source, quality, structure, texture and chemistry, and that are free from unwanted seeds.

Concentrate invasive species removal in Conservation Zones.

Avoid the removal of dead trees, as they provide important habitat and food sources. Fell dead trees where there is a risk to human health. Leave the biomass to decompose.

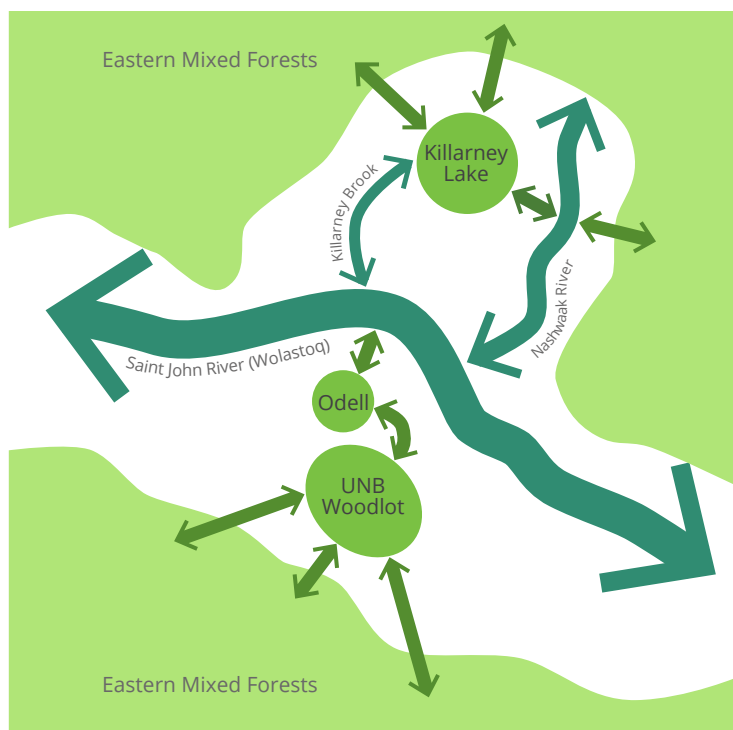
Prevent development that might negatively impact Killarney Lake water quality.

Preserve and enhance hydrological connection to Nashwaak River.

Encourage habitat development and naturalization of adjacent properties to create regional ecological linkages.



Regional Ecological Linkages





Projects & Initiatives for Killarney Lake Park



Trails (see maps on pages 46-47)

Develop a comprehensive trail/track network for multiple modes of active transportation connecting park gateways and interiors, with a choice of routes and levels of challenge.

Construct the raised and guided trails (boardwalks) through Zone 1: Conservation to support maintenance vehicles. Not all of the raised and guided trails, as indicated on Map 4: Future Trails will be elevated boardwalks. This will be implemented based on site-specific needs, for example, in areas of steep slopes, stream crossings, and sensitive ecological function

Establish expanded hiking trails.

Partner with River Valley Cycling to develop new mountain bike trail system.

Provide guided trails through Conservation Zones that include fencing along the sides.

Develop access points to connect the park to St. Mary's First Nation, Cliffe Street, Two Nations Crossing, and Canada Street.

Remove obstructions from trails such as fallen trees.

Block informal and unsanctioned trails with brush barriers or temporary fencing. Use signs to educate park users why the trail is closed.

Use non pH altered granular for new trail construction.



Furniture

Develop a family of furniture that have a consistent visual language, quality workmanship, ruggedness, longevity, and locally sourced materials for seating, fencing, lighting and waste disposal.

Provide permanent lighting plan only within the Recreation and Sport Tourism Zones, not for interior trails. Provide night-sky compliant lighting to mitigate avian conflicts.

Locate waste and recycling receptacles at park gateways and follow City maintenance access requirements.

Enhance existing picnic area with new tables and BBQs.



Signage

Develop a comprehensive information and wayfinding sign system to inform visitors about Killarney Lake Park and its features, to help make their experience more enjoyable.

Develop standards for sign placement, size, height, materials and graphic language.

Follow Provincial, City and/or Regional Park standards for graphics on signs. Follow City branding guidelines for signs.

Use universal pictorial signs wherever possible, with less emphasis on written communication.

Develop a management plan for updating signs, rotating signs seasonally, repair and replacement.

Wayfinding Signs

Work with existing user groups to develop a comprehensive trail marking system including directional arrows, maps, distance and difficulty markers.

Identify appropriate uses (walking, mountain biking, snowshoeing, skiing) on all major trails.

Provide orientation signs at all trail crossings.

Provide an overall park trails map at all park gateways.

Develop a temporary wayfinding system for event competitions for all users: athletes, spectators, officials and support personnel.

Consider wayfinding as part of an Emergency Response Plan. For example, add GPS coordinates or point to the nearest exit.

Interpretive Signs

Provide information about the unique ecological and cultural features of Killarney Lake Park.

Inform the public about the role and value of dead and fallen trees as habitat.



Regulatory Signs and Etiquette

Locate permitting, parking, park rules and access control signs immediately adjacent to their associated use.

Consolidate regulatory signs to a single display wherever possible.

Use permissive signs and positive messaging where access is invited (e.g. "Please walk on the grass").

Information Signs

Provide operating hours, park boundaries, emergency information and temporary event signs at park gateways.

Identify which trails are accessible to first responders.



Other Infrastructure

Complete an inventory assessment on existing infrastructure to determine user group capacity/sport tourism needs.

Construct boardwalk at Beaver Ponds / Marsh.

Develop dedicated shared event infrastructure (host ski, bike, triathlon, and disc golf events).

Create scenic viewing platforms.

Monitor the condition of infrastructure crossing permanent water features. Operations staff are responsible for implementing improvements when required.

Develop the Marysville parking access.

Develop the Two Nations Crossing parking access.

Construct new Disc Golf course within existing ski trails.

Ensure all new structure and select paths meet accessibility standards.



Other Initiatives

Collaborate with and include the First Nation community in the planning and operations of the park.

Create a web-based portal for Killarney Lake Park that provides user information and links.

Develop an eco-tourism strategy for Regional Parks that is integrated with the City's broader tourism strategy and initiatives.

Support programs initiated by community groups (i.e. nature, recreation programs, summer camp programs).

Create an asset management database to measure existing conditions such as natural features, flora and fauna, patterns of use, and infrastructure. Identify evaluation criteria to identify gaps and forecast future needs.

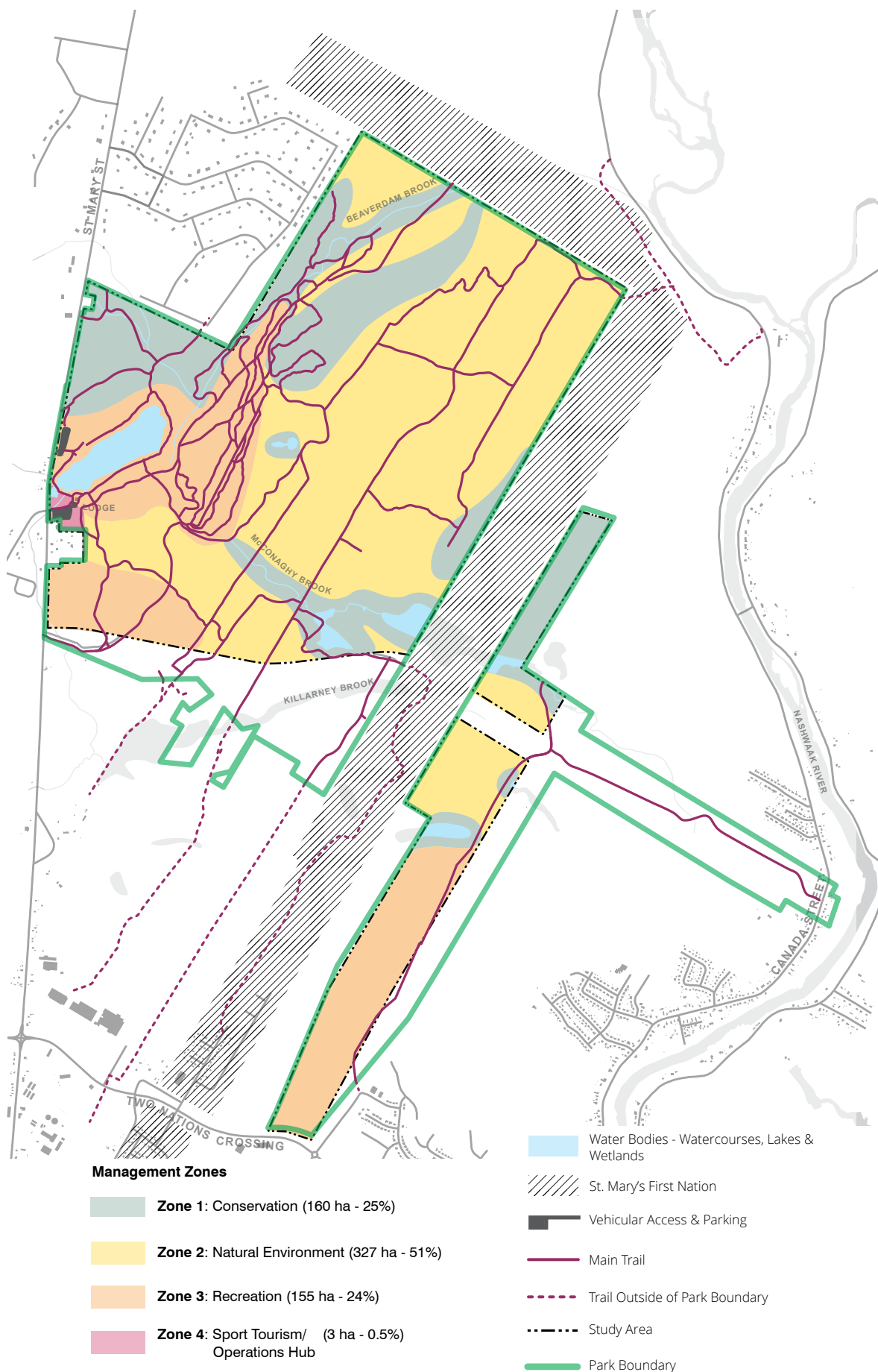
Develop an operations and maintenance plan with a seasonally based schedule, maintenance standards, protocols and responsibilities. Seek partnerships with local groups and volunteers.

Develop an environmental emergency response plan for storms, wind, ice, flooding, drought, fire and disease events. Invite input from groups such as Natural Resources Canada, Canadian Food Inspection Agency, University of New Brunswick, Fredericton Tree Commission and the citizens of Fredericton.

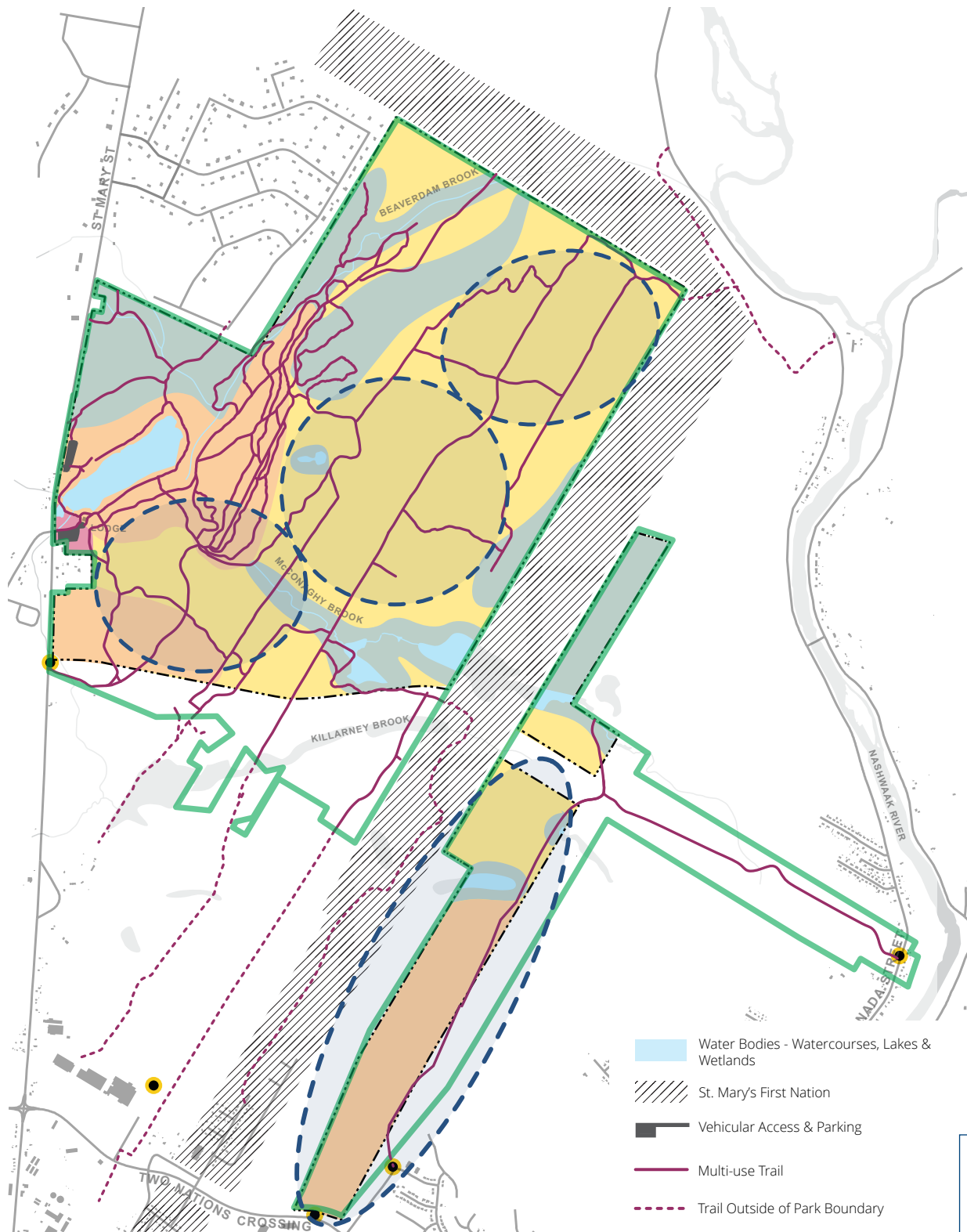
Work with the University of New Brunswick and agencies to create an ecological habitat inventory to understand species representation, breeding and migration. Create a wildlife management plan with a focus on limiting human access to sensitive areas during key periods.

Protect water quality in Killarney Lake for swimming.

**Map 3: Existing Trails in Killarney Lake Park
(developed as part of the 1985 Killarney Lake Park Conceptual Plan)**



Map 4: Conceptual Future Development in Killarney Lake Park



Management Zones

- Zone 1: Conservation** (160 ha - 25%)
- Zone 2: Natural Environment** (327 ha - 51%)
- Zone 3: Recreation** (155 ha - 24%)
- Zone 4: Sport Tourism/ Operations Hub** (3 ha - 0.5%)

- Water Bodies - Watercourses, Lakes & Wetlands
- St. Mary's First Nation
- Vehicular Access & Parking
- Multi-use Trail
- Trail Outside of Park Boundary
- Potential locations for future recreational activities developed in consultation with stakeholders
- Secondary Gateway
- Park Boundary

Please refer to the Killarney Lake Mountain Bike Trails Phase 2 Feasibility Report and Killarney Lake Trail System and Bike Park Plan (2016)

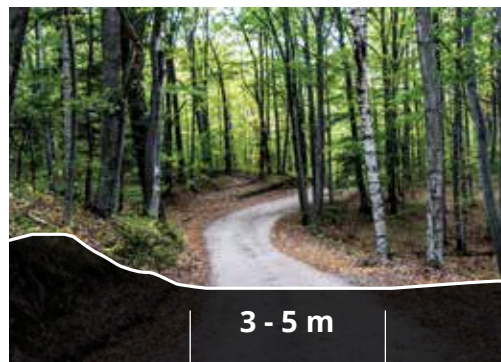
Parking will be provided at certain trail head locations determined by staff during implementation. Not all trail heads are maintained year-round. The location of trail heads may change over time.



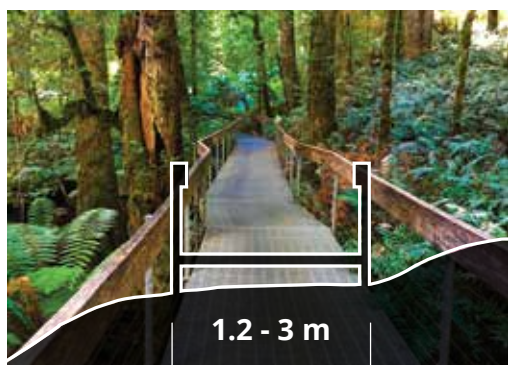
Trail Types



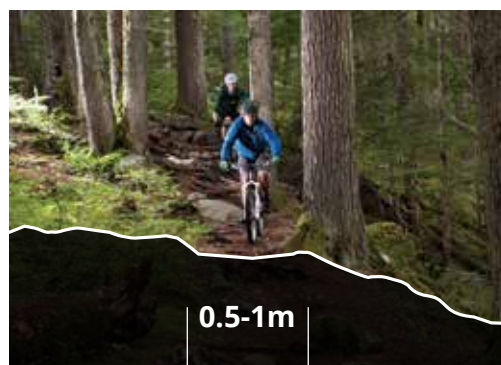
Multi Use Trail
Gravel Surface (existing logging road)



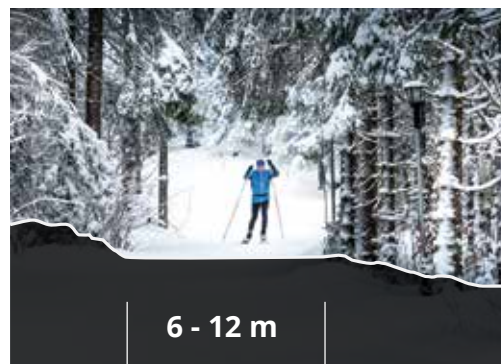
Multi Use Trail, Typical
Crushed stone granular surface



Raised Boardwalk, Guided
Wire Mesh/Wood Surface



Multi Use Single Track Trail
Natural Surface



Ski Trail
Natural Surface

Projects & Initiatives

KILLARNEY LAKE PARK COMMONS

1 Beach Boardwalk and Seating

Develop a boardwalk walkway along the edge of the beach with seating along its length

Continue to import sand to maintain the beach area at its existing size

2 Lodge

Consider improvements to the existing lodge to accommodate existing and future user group needs and events

3 Pavilion

Build an Accessible, signature landmark building with washrooms, weather protection canopy, maps, park etiquette, wayfinding, seating, and trail hub

Construct showers, change rooms, and interior spaces suitable for interpretive programs, lifeguards and/or park staff

4 Natural Play Area

Establish accessible play opportunities

Build a destination level playground with unstructured play elements on slopes, stones, logs, straw and earth

Utilize existing and new trees that provide sunny and shady spots

Provide seating around edges

Apply training City staff receive in natural playground construction





5 Parking Courtyard & Filtration Buffer

Add tree planting throughout the parking area and around its edges

Establish formally marked parking spaces to optimize use

Create vegetation communities between the parking area and water features including Killarney Lake and the wetland that intercepts and filters runoff and pollutants before it reaches the water

Ensure design is compatible with winter operations

6 Boardwalk and Wetland

Develop an enhanced wetland at the outlet of Killarney Lake to act as a natural filter between the lake and Killarney Brook

Follow Provincial regulations protecting wetlands and water courses (WAWA). Obtain permits required for development within 30m of watercourse (WAWA)

Develop an accessible trail connecting to the beach boardwalk and to Killarney Lake Loop Trail

Provide seating along the boardwalk

7 Accessible Boat Launch

Create an accessible boat dock and launch at the Killarney Lake Rotary Centennial Lodge for small, human-powered boating on the lake

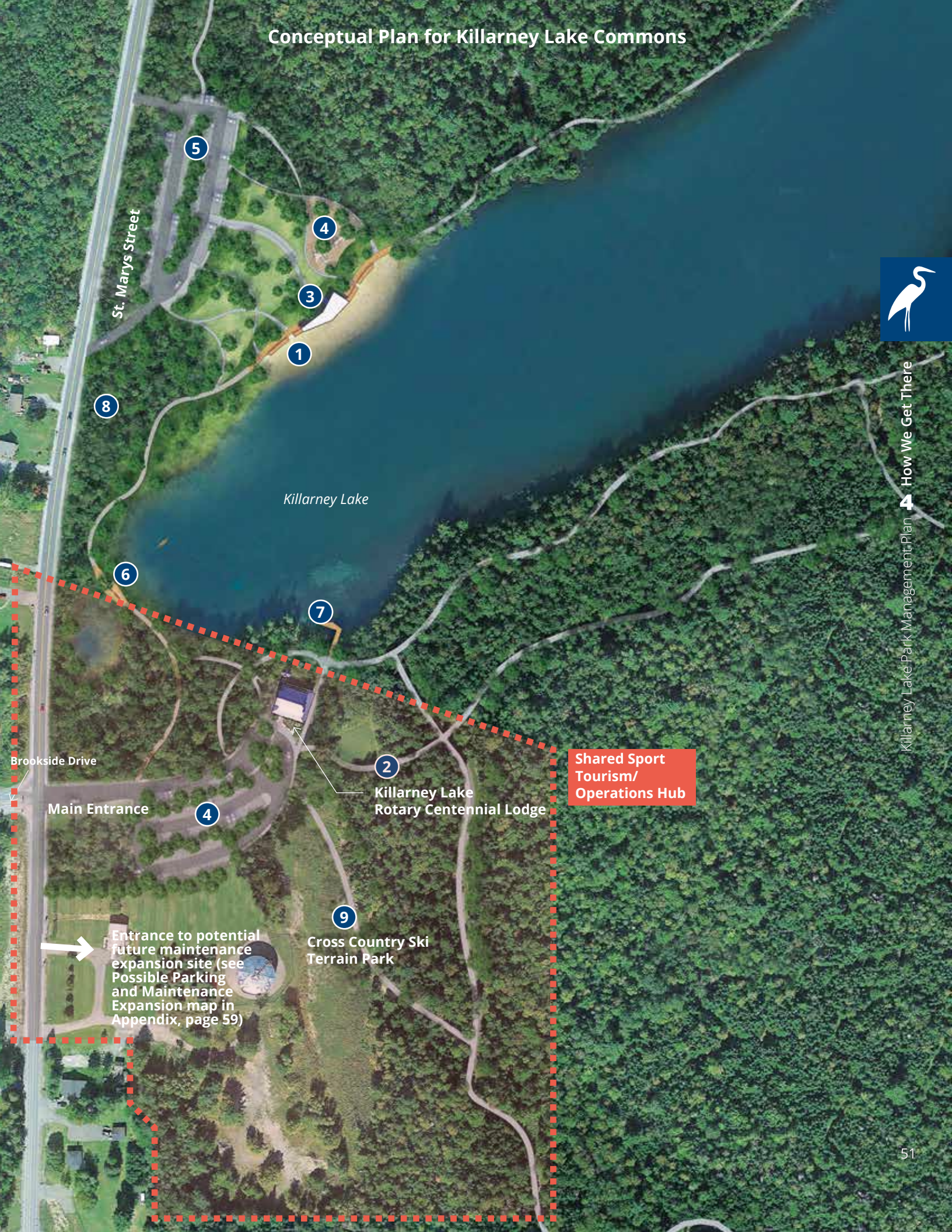
8 New Woodland Edge

Re-establish forest along St. Marys Street to create a more naturalized edge and frame the spaces within the park

9 Cross Country Ski Terrain Park

Create a ski terrain park with moguls for young skiers to practise

Conceptual Plan for Killarney Lake Commons



St. Marys Street

Killarney Lake

Brookside Drive

Main Entrance

Entrance to potential future maintenance expansion site (see Possible Parking and Maintenance Expansion map in Appendix, page 59)

2 Killarney Lake Rotary Centennial Lodge

9 Cross Country Ski Terrain Park

Shared Sport Tourism/ Operations Hub





4.3 Implementation Plan

Recommendations range from short term to long term and are to be achieved, through incremental investment over the next 25 years and beyond. Successful implementation of this park plan requires clear ownership and accountability within the City organizational structure. It is recommended that the City designate a staff position as well as a City department that will assume responsibility for implementing the park plans.

Over time, new Secondary Plans will be developed for new or expanded recreational uses such as disc golf and mountain biking. These plans will be guided by this management plan but undertake use-specific feasibility analyses and develop detailed recommendations for implementation. An example of this is the *2016 Killarney Lake Park – Bike Trail Feasibility Study* by Alpine Bike Parks. “The plan’s goal was to assess the feasibility of developing a mountain bike trail system at Killarney Park that would serve as a resource for the community and a sport tourism destination. This is the initial stage of due diligence to ensure that any further investment in the project will work towards a sustainable long-term goal.” (Judd de Vall – Alpine Bike Parks, Principal). The feasibility study also recommends further steps including construction drawings. This study should be considered along with this management plan in order to provide the most sustainable future for the park.

Everyone has a role to play in implementing this plan. The City of Fredericton will take the lead role, providing operations, staff, and capital budget. Staff considerations include condition of assets, outside funding and private donations. It will be crucial to support and collaborate with community groups and residents who want to contribute to the planning, and maintenance of the parks, whether helping with fundraising, park advocacy or planning projects. Leveraging the passion of the community will have a huge impact on the quality of outcomes that can be achieved by this plan.



Short Term

Natural Play Area
Disc Golf Plan & Course
Parking expansion (Lodge Lot overflow)
Woodland edge along Killarney Road
Trail enhancement (Disc Golf)
Secondary Entrances - Trail Head off Two-Nations Crossing
Annex Park Boundary
Revise Park Boundary – re-zone areas east of the lodge, obtain boundary adjustment from Province of New Brunswick
Plan & Build Cross Country Ski Terrain Park
Pavilion and Boardwalk
Trail Enhancement – (Mountain Biking)

Medium – Long Term

Accessible Dock
Event Infrastructure
Secondary entrance –Marysville
Lakeside Parking Courtyard
Boardwalk and Wetland
Trail Enhancement – X Country Ski Trails, Mountain Biking, Disc Golf



This Management Plan for Killarney Lake Park is a long term vision. The ecosystems in the park are by their nature the result of the long term evolution of natural systems and human use. The change envisioned by this plan will occur incrementally, over time, as opposed to a single large up-front investment. The City of Fredericton will work with partners at the University of New Brunswick and different levels of government, as well as seek more active participation of citizens and park users, to identify opportunities to improve the park through funding, volunteer work, or joint projects. Making a series of small scale improvements over time is the best approach to ecosystem management, and is a fiscally responsible way to achieve the goals of the plan.

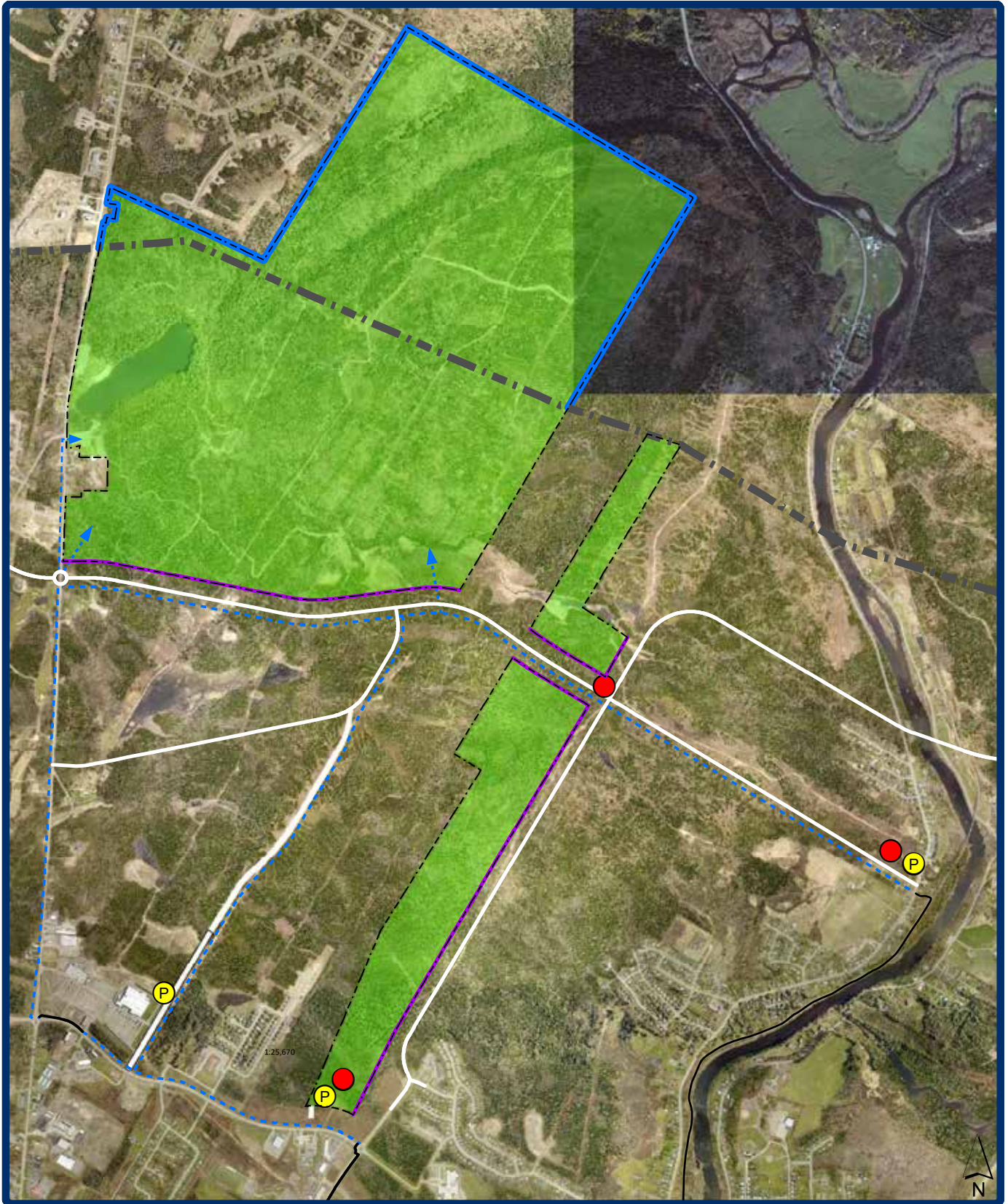
Project implementation may occur with injections of funding from the City's budget, government grants, or as more modest undertakings relying on volunteer contributions and donations. There are many ways to achieve the principles and recommendations of this Management Plan, from formal construction projects involving detailed working drawings and hiring of contractors, to community tree planting, building and clean-up projects involving volunteers, and these have different levels of capital funding requirements. Costing for individual projects will be better defined during the preparation of secondary plans and construction drawings which will need to also include detailed geotechnical, servicing, and contractor costs, as well as the City's operations and staffing needs.

Appendix

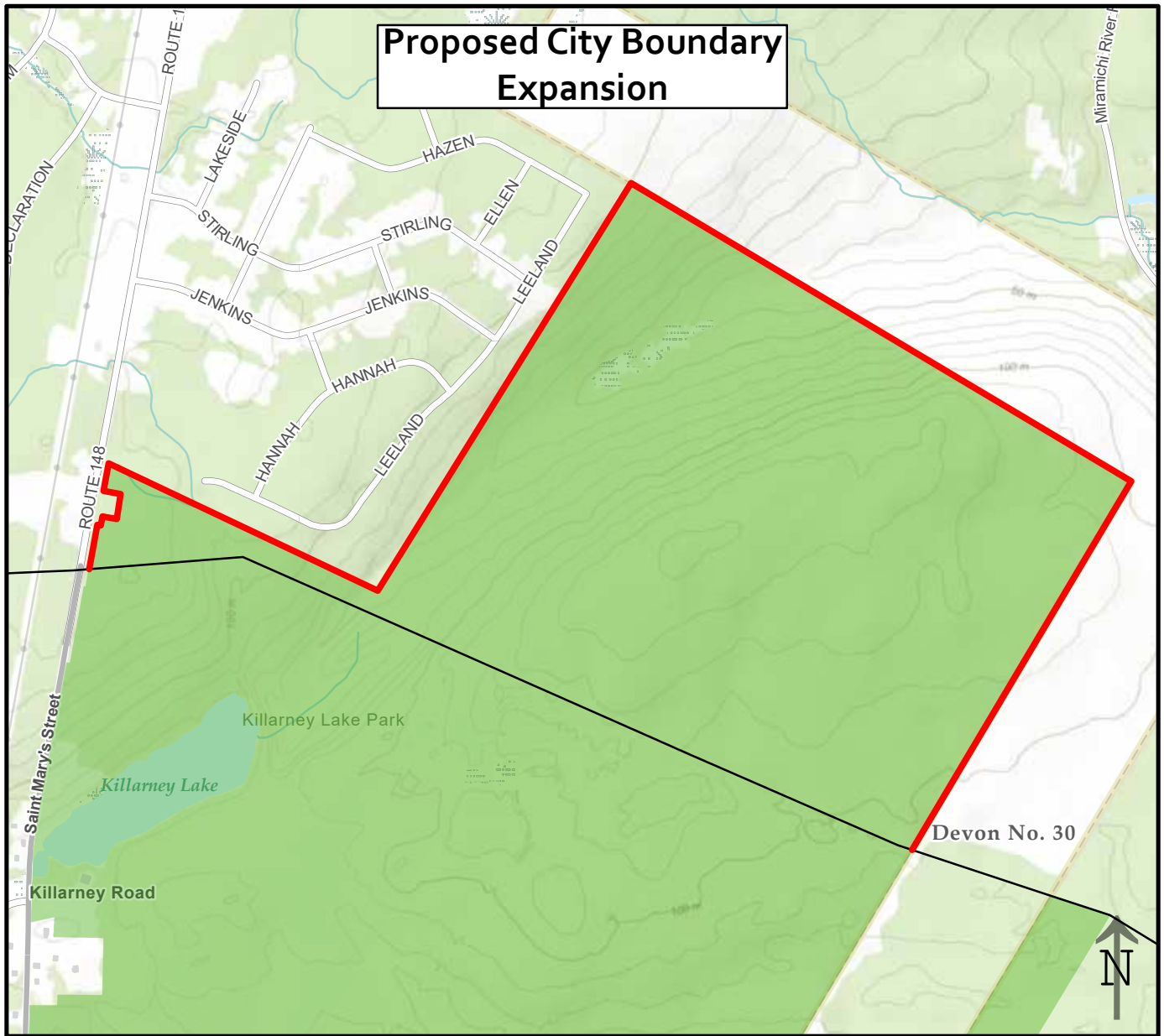


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Proposed Future Transportation Connections (2016 Active Transportation Connection Plan)

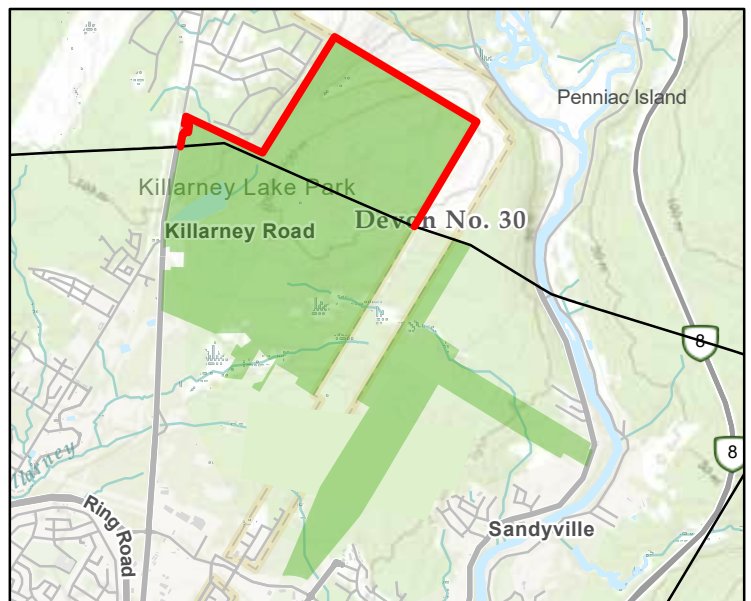


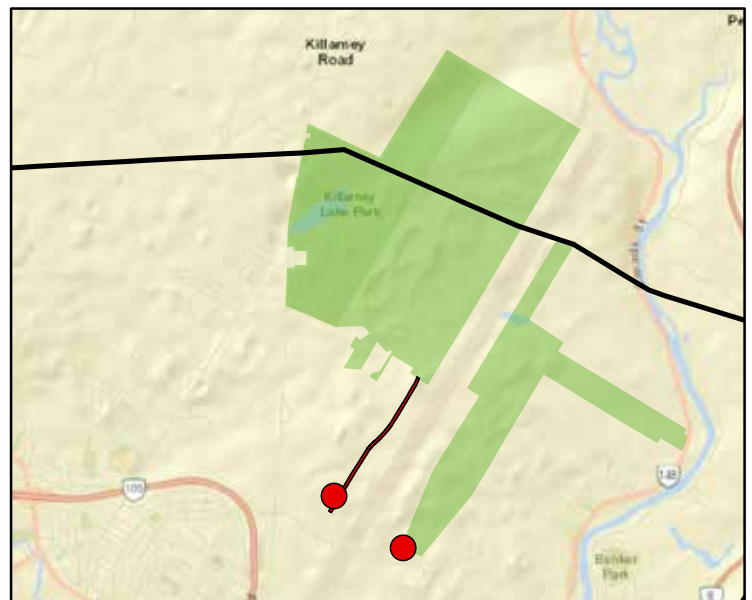
- | | | | |
|---------------------------------|--------------------------------|----------------|--------------------|
| Killarney Lake Park | Future City Boundary Expansion | Existing Trail | Proposed Trailhead |
| Future Outer Ring Road Corridor | Ring Road Realignment | Future Trail | Proposed Parking |
| City Boundary | Public Street | | |



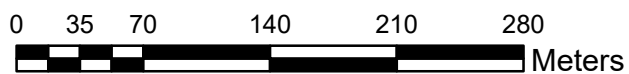
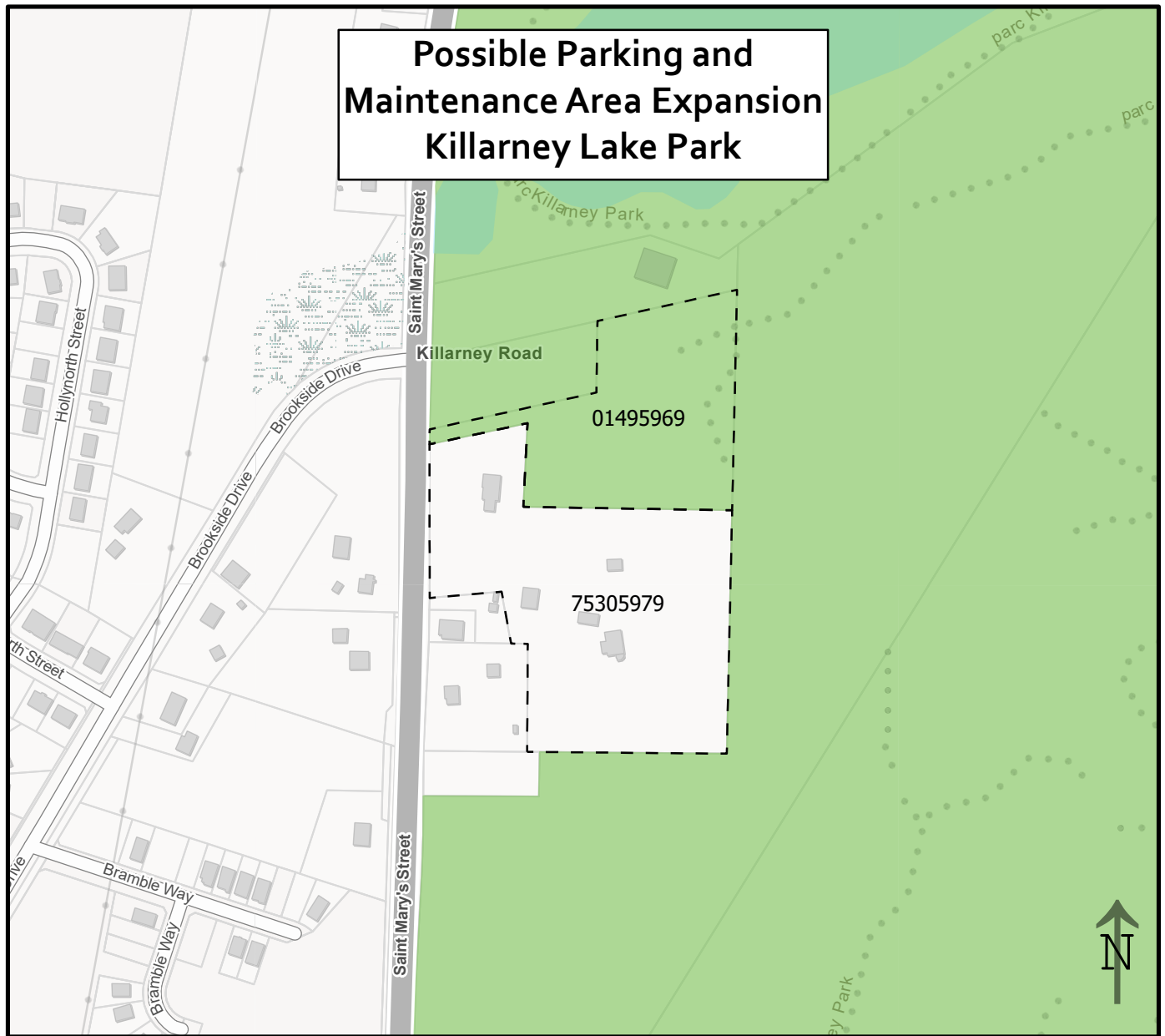
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- City Boundary
- Killarney Park Boundary
- Proposed City Boundary Expansion

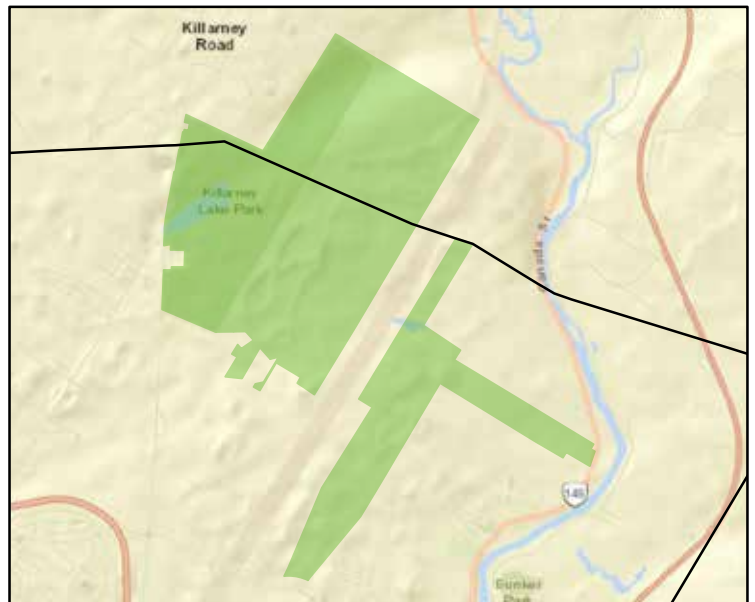




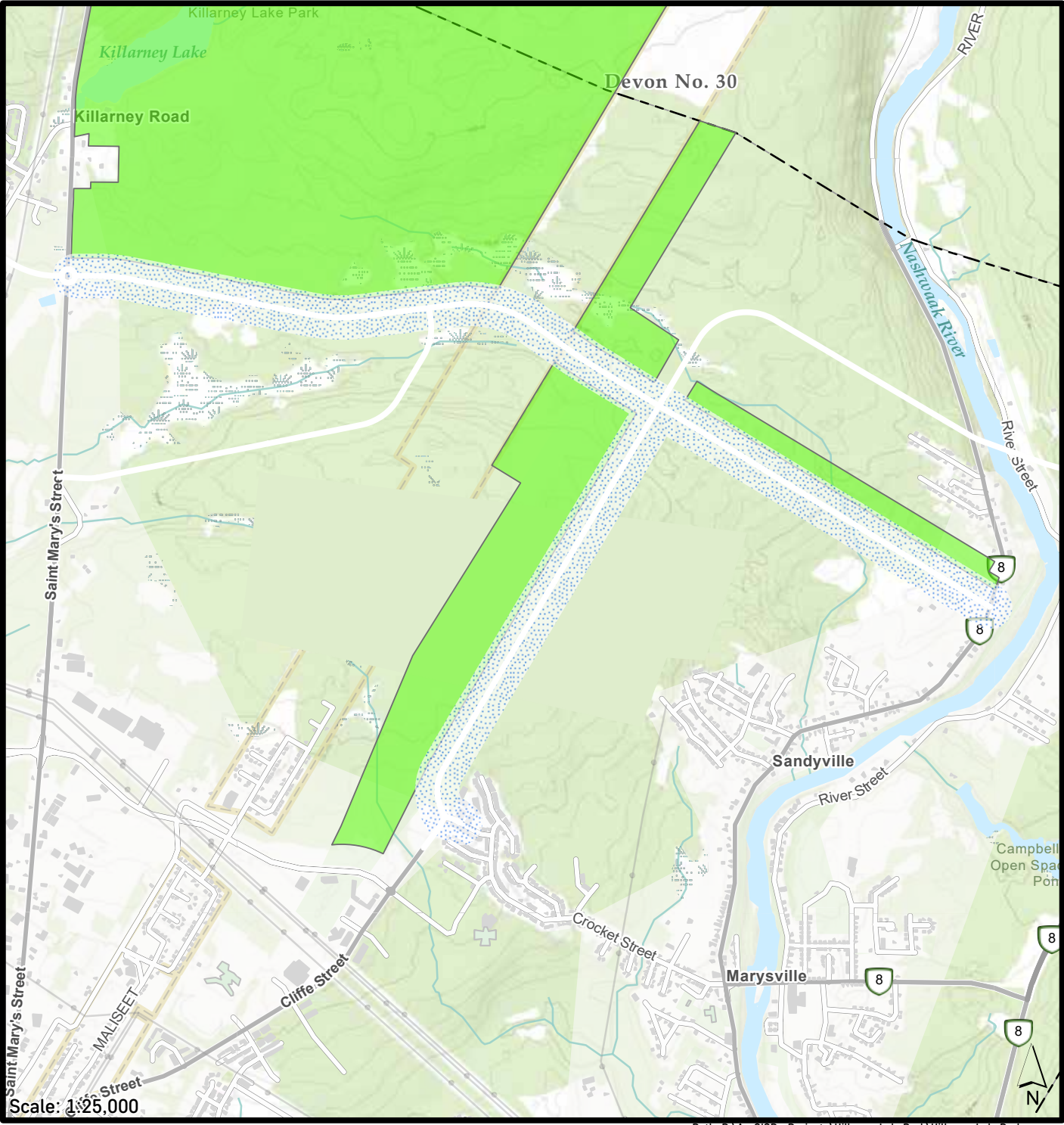
Possible Parking and Maintenance Area Expansion Killarney Lake Park



- City Boundary
- Killarney Park Boundary
- Possible Parking and Maintenance
- Expansion Site



Potential Lands for Development Corridor



Future Street
 Proposed Park Boundary
 City Boundary
 Development Corridor

Note: When assembling the property for the Killarney Lake Park the City also planned for the additional land that would be required for future Transportation Links and the subsequent “Development Corridors” along both sides of these Links.

