

TORONTO AND REGION CONSERVATION AUTHORITY

# EAST DUFFINS HEADWATERS MANAGEMENT PLAN UPDATE



Produced by the East Duffins Headwaters Project  
Steering Committee and the East Duffins Headwaters  
Public Advisory Committee.



Toronto and Region  
**Conservation**  
Authority



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## EXECUTIVE SUMMARY

The East Duffins Headwaters (EDH) is a group of properties managed by Toronto and Region Conservation Authority (TRCA) totalling 1,460 hectares (ha) in the Region of Durham. These lands are located between Brock Road and Lakeridge Road along Uxbridge-Pickering Townline. The majority of these lands (over 1,100 ha) are covered by largely intact mixed forest. EDH is located entirely within the Oak Ridges Moraine and includes ecologically valuable headwaters of the Duffins Creek, Lynde Creek, Pefferlaw River and Lake Scugog watersheds. The EDH property complex represents some of the most pristine lands in the Greater Toronto Area (GTA).

Further underscoring the environmental significance of the area, the EDH properties intersect with both the Uxbridge Kames Environmentally Sensitive Area and the provincially designated Uxbridge Glen Major Forest Area of Natural and Scientific Interest. The area is home to several regional species of concern and Ontario Species at Risk (as per Ontario Regulation 230/08).

The *East Duffins Headwaters Management Plan Update* (Management Plan Update) has been developed to address property management, public safety, site securement and restoration issues, as well as future demands for nature-based recreation in the region. It provides guidance for appropriate environmental protection and restoration techniques, reflects public input regarding appropriate use, and establishes a framework for public stewardship. The document has been guided by the recommendations of TRCA's *A Watershed Plan for Duffins Creek and Carruthers Creek* (2003). It also aligns with provincial land use planning direction provided by *The Growth Plan for the Greater Golden Horseshoe* (2006), the *Oak Ridges Moraine Conservation Plan* (2002) and the *Greenbelt Plan* (2005).

The planning process to develop the EDH Management Plan Update was undertaken in three phases. The following table provides an overview of the main deliverables for each phase of the process.

### OVERVIEW OF THE MANAGEMENT PLAN UPDATE PROCESS

PHASE	DELIVERABLES	TIMELINE
Phase One	<ul style="list-style-type: none"> <li>Update property inventories including natural heritage data, geo-referenced trail locations, cultural heritage data, forest management data, restoration opportunities information and site securement data.</li> <li>Establish Project Steering Committee and a Public Advisory Committee, host meetings.</li> <li>Update plan vision, goal and objectives.</li> <li>Establish and circulate a project newsletter.</li> </ul>	October 2008 to March 2012
Phase Two	<ul style="list-style-type: none"> <li>Review and update management zones.</li> <li>Integrate updated watershed management recommendations.</li> <li>Develop a Site Securement and Protection Plan, including public use and hazard management.</li> <li>Develop an overall Trail Plan for the properties, including plans for emergency response.</li> <li>Host Project Steering Committee and Public Advisory Committee meetings.</li> <li>Circulate a project newsletter update.</li> <li>Host one public meeting to review draft material.</li> </ul>	December 2008 to June 2012
Phase Three	<ul style="list-style-type: none"> <li>Review and update management recommendations.</li> <li>Finalize draft Management Plan Update document.</li> <li>Finalize Site Securement and Protection Plan.</li> <li>Finalize Trail Plans.</li> <li>Host Project Steering Committee and Public Advisory Committee meetings.</li> <li>Host one public meeting to present the final draft Management Plan Update.</li> <li>Obtain partners' and TRCA Board endorsement and/or approval of the final draft Management Plan Update;</li> <li>Circulate a project update newsletter.</li> </ul>	July 2011 to March 2013

## VISION, GOAL & OBJECTIVES

During the planning process a vision, goal and objectives were developed as a strategic foundation for the EDH Management Plan Update, providing overarching planning direction for the development of detailed management recommendations. The vision, goal, and objectives were determined through input from the public, stakeholders, municipal partners and neighbouring Conservation Authorities.

### Vision:

As part of Toronto and Region Conservation's vision for The Living City, the EDH properties will be a model for achieving biodiversity protection, enhancement and management on a provincially significant landform, while providing for sustainable, healthy and enjoyable public experiences.

### Goal:

To protect, enhance and steward the EDH properties to achieve watershed integrity and biodiversity in an engaged community, ensuring overall sustainability and public enjoyment.

### Objectives:

#### Natural Heritage

To protect existing key natural heritage features and restore the natural ecosystem by ensuring the integrity and diversity of native species, habitats, landscapes, and ecological processes. Ensure the connection of natural heritage features to one another and to adjacent areas.

#### Cultural Heritage

To identify and protect the cultural heritage features for their inherent value and representation of the long-term human use and occupancy of the area.

#### Land Use

To ensure protection of ecological and cultural values through innovative and compatible land use planning, increasing protected lands, and encouraging sustainable land management practices.

#### Education

To encourage knowledge and understanding of the natural and cultural values of the land and water, along with their interrelated protection and management requirements.

## Stewardship

To facilitate ongoing public involvement and partnerships that foster sustainable living and accomplish watershed management objectives, as well as support the Management Plan Update recommendations.

### Public Use

To provide opportunities for appropriate and accessible public uses that are consistent with all other objectives.

## MANAGEMENT ZONES

Management zones are developed as part of the EDH Management Plan Update to guide how the properties are managed, where ecological features must be protected, where public use and trails will be permitted, and where restoration efforts will be focused. Each unique management zone permits specific activities within its boundaries. The zones are distinguished by their different levels of ecological protection, management needs, and acceptable levels and types of public use.

**Nine different management zones have been designated for the EDH properties as follows:**

- Nature Reserve Category #1
- Nature Reserve Category #2
- Natural Environment Category #1
- Natural Environment Category #2
- Cultural Heritage Preserve
- Restoration
- Lease – Residential
- Lease – Agricultural
- Public Use

The definition of each management zone is set out in Chapter 2.

The EDH management zones prioritize conservation of the area's ecological and cultural integrity. While EDH currently represents a largely intact natural area, these lands have a legacy of modification due to human impact. Impacts have included pioneer related deforestation, wind erosion, subsequent reforestation and, in some cases, gravel extraction and associated aggregate site restoration. While the EDH properties have largely regenerated to very high ecological quality, some areas may still need improvement or restoration works to achieve their full potential. A priority in developing these management zones is to establish a system that will protect the undisturbed and intact environments on the site while still providing some opportunities for public access via a system of approved trails.

## SITE SECUREMENT AND PROTECTION PLAN

The purpose of the Site Securement and Protection Plan is to identify encroachments, built structures, gates, access points, boundary fence conditions, waste or any other issues that may be a safety concern and allow for unauthorized use of the properties. Features identified were evaluated and prioritized for resolution or removal.

Property data for the Site Securement and Protection Plan was collected using global positioning system (GPS) devices. Data was then tabulated and issues prioritized for resolution. Boundary securement improvements will be based on need and available resources. All identified access points will be reviewed for inclusion within the Trail Plan. Those deemed inappropriate for inclusion will be decommissioned. All waste encroachments located on TRCA managed lands will be removed and where required restoration efforts may be implemented to improve the site. Neighbouring residents will be informed through a soft approach if encroachments are identified. If encroachments persist, additional enforcement or police intervention will be sought.

All buildings in EDH will be secured and assessed for their future utility. Those deemed to be unnecessary or a hazard may be scheduled for removal pending all appropriate studies and approvals. A request for proposal to convert certain structures into interpretive features will be developed, most notably the historic Walker sawmill and accessory structures.

## TRAIL PLAN

The development of a Trail Plan will help protect the most sensitive areas of the properties from human impacts. The EDH Trail Plan was guided by the management zone development process and directs users to areas that are appropriate for passive public use by avoiding areas that should be protected.

The stated vision of the Trail Plan is to develop a safe, accessible, enjoyable and educational year-round trail system that promotes and protects the environment and cultural features. The EDH trail system will be integrated into the broader network of trails within the Township of Uxbridge, the “Trails Capital of Canada.”

There are approximately 108 kilometres (km) of existing trails in EDH. The Trail Plan recommends that approximately 14 km of existing trail be closed and approximately 4 km of new trail be created (outside of Dagmar North). An additional 10 km of cycling-focused

trail is to be developed on the Dagmar North property. While the total length of trails in EDH is to remain stable at approximately 108 km, the new trail system will shift trail use away from the most sensitive areas in the core of the properties to less sensitive areas closer to access points or on the periphery of the properties.

### Some of the key features of the Trail Plan include:

- A trail system that provides recreational use while protecting the cultural and natural heritage resources on the properties.
- Linkages to inter-regional trail systems and neighbouring natural areas via the Oak Ridges Trail and the Trans Canada Trail.
- Several trail heads that will provide access to different trail loop options connected by linkage trails, to offer a variety of experiences for different skill levels.
- Recreational opportunities for authorized trail uses, such as hiking, cycling, horseback riding, snow shoeing, cross-country skiing, wildlife viewing and on-leash dog walking within permitted trail corridors.



EDH Hiking Trail, 2016



# 1.0 INTRODUCTION

## 1.1 OVERVIEW

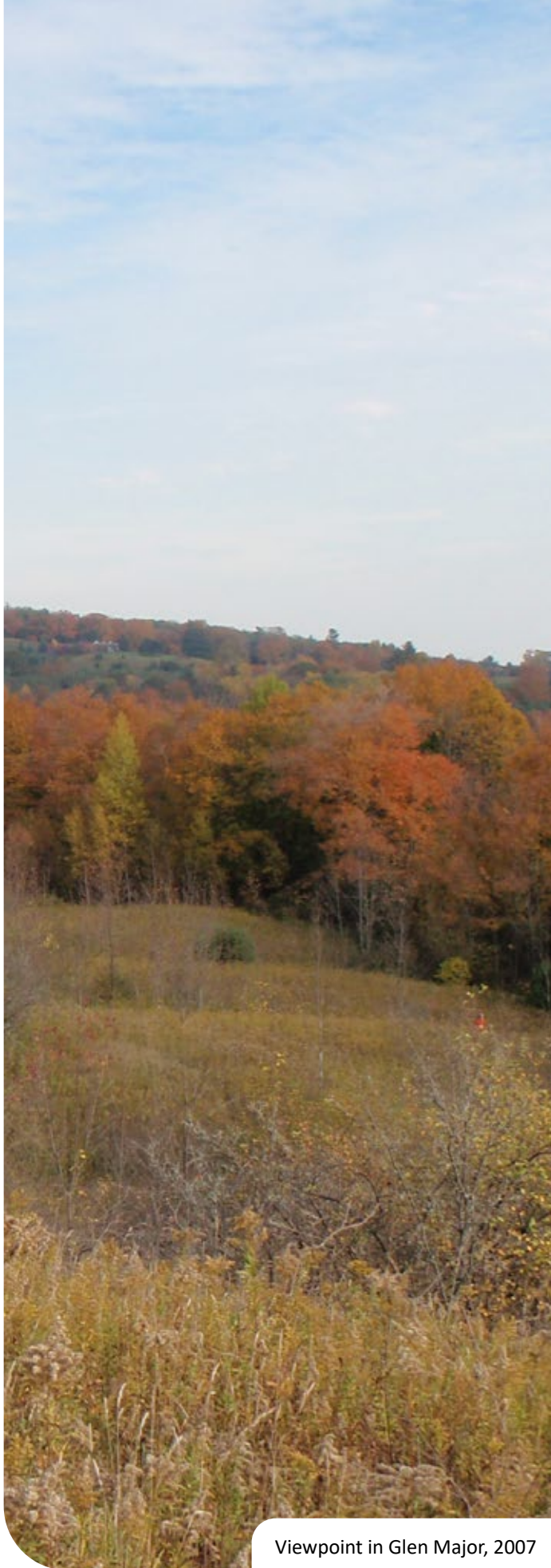
This report is an update to the *Duffins Headwaters Management Plan for TRCA Properties (2003)*. Whereas the 2003 plan was intended to guide the management of all TRCA lands within the Duffins Creek headwaters, this Management Plan Update is focused on the TRCA managed lands in the upper reaches of the East Duffins Creek subwatershed.

The *East Duffins Headwaters Management Plan Update (Management Plan Update)* has been developed to address property management, public safety, site securement and restoration issues, as well as future demands for nature-based recreation in the region. It provides guidance for appropriate environmental protection and restoration techniques, reflects public input regarding appropriate use, and establishes a framework for public stewardship. The document has been guided by the recommendations of TRCA's *A Watershed Plan for Duffins Creek and Carruthers Creek (2003)*. It also aligns with provincial land use planning direction provided by *The Growth Plan for the Greater Golden Horseshoe (2006)*, the *Oak Ridges Moraine Conservation Plan (2002)* and the *Greenbelt Plan (2005)*.

EDH represents some of the most scenic greenspace in the Greater Toronto Area (GTA). The lands comprise 1,460 hectares (ha), of which more than 1,100 ha is intact forest. The properties are located entirely within the Oak Ridges Moraine and include valuable headwaters of the Duffins Creek, Lynde Creek, Pefferlaw River and Lake Scugog watersheds. Further underscoring the environmental significance of these properties, EDH intersects with major sections of both the Uxbridge Kames Environmentally Sensitive Area and the provincially designated Uxbridge Glen Major Forest Area of Natural and Scientific Interest. The area is home to several regional species of concern and Ontario Species at Risk (as per *Regulation 230/08*).

EDH also boasts a rich cultural legacy. Accordingly, eight individual sites have been identified as areas of cultural value that are to be protected.

The study area currently provides passive, year-round public use. There are approximately 100 km of multi-use trails linking the majority of the EDH lands. Permitted trail uses include hiking, horseback riding, leashed dog walking, cycling and cross-country skiing. In addition, these trails are connected to a broader inter-regional trail system via the Oak Ridges Trail and the Trans Canada Trail.



Viewpoint in Glen Major, 2007

The EDH Management Plan Update will complement a number of TRCA initiatives, including:

- *Building the Living City: TRCA’s 10-Year Strategic Plan 2013-2022*
- *A Watershed Plan for Duffins Creek and Carruthers Creek (2003)*
- *Fisheries Management Plan for Duffins Creek and Carruthers Creek (2004)*
- The Terrestrial Natural Heritage System Strategy
- The restoration project for the former Timber Brothers gravel pit

**Deliverables of the EDH Management Plan Update include:**

- Identification of existing property features, including natural and cultural heritage resources
- Evaluation of the properties based on conservation planning policies, landscape features and functions, site environmental opportunities and constraints, community needs, and municipal policies, plans and requirements
- A Site Securement and Protection Plan
- Refinement of conservation land management zones
- Guidelines and recommendations for each management zone
- An expanded Trail Plan, including hazard management and emergency response

The EDH Management Plan Update will guide the management and use of the properties for approximately the next 15 years. The Management Plan Update has been designed to anticipate management issues likely to arise in the future. The planning process included substantial engagement with technical staff both at TRCA and at partner organizations, as well as local interest groups and the public. As plan implementation progresses, recommendations may need to be revisited to adapt to emerging issues.

### 1.1.1 Site Description

The EDH property complex is located within in headwaters of the Duffins Creek watershed on the southern slope of the Oak Ridge Moraine, within the Regional Municipality of Durham. Seven of the nine landholdings are located completely within the Township of Uxbridge. A small portion at the south end of the Glen Major Resource Management Tract (Glen Major), as well as the Purcell property, are located in the City of Pickering (Map 1.1). The entirety of the EDH lands are owned by TRCA with the exception of 71.46 ha within Glen Major, which are owned by the Ontario Heritage Trust (OHT).

The entire planning area is approximately 1,460 ha. The individual landholdings are listed in Table 1.1.

TABLE 1.1 EDH PROPERTY NAMES AND SIZES	
Property Name	Size (ha)
North Walker Woods	163.3
Walker Woods	311.4
Glen Major Resource Management Tract	439.4
Brock Tract	207.1
Wilder Forest and Wildlife Reserve	102.3
Dagmar North and South	48.3
Pleasure Valley	127.7
Skyloft	40.5
Purcell	20.3
<b>Total</b>	<b>1,460.3</b>

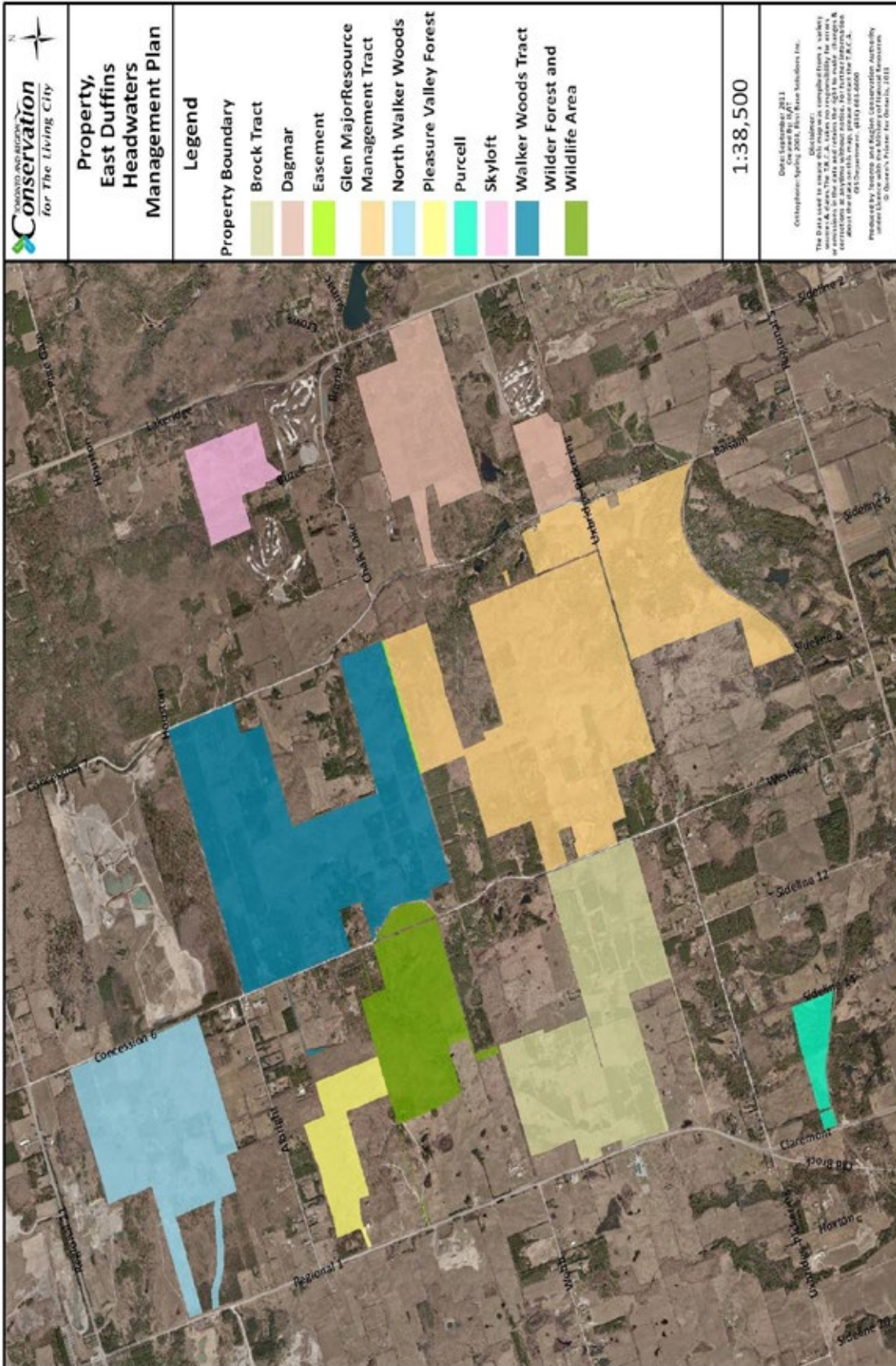
The EDH properties include a variety of high-quality habitat, including interior forest, meadows, wetlands and headwater streams. This is evident through the diverse flora and fauna species of regional concern found in the area.

## 1.2 CONTEXT

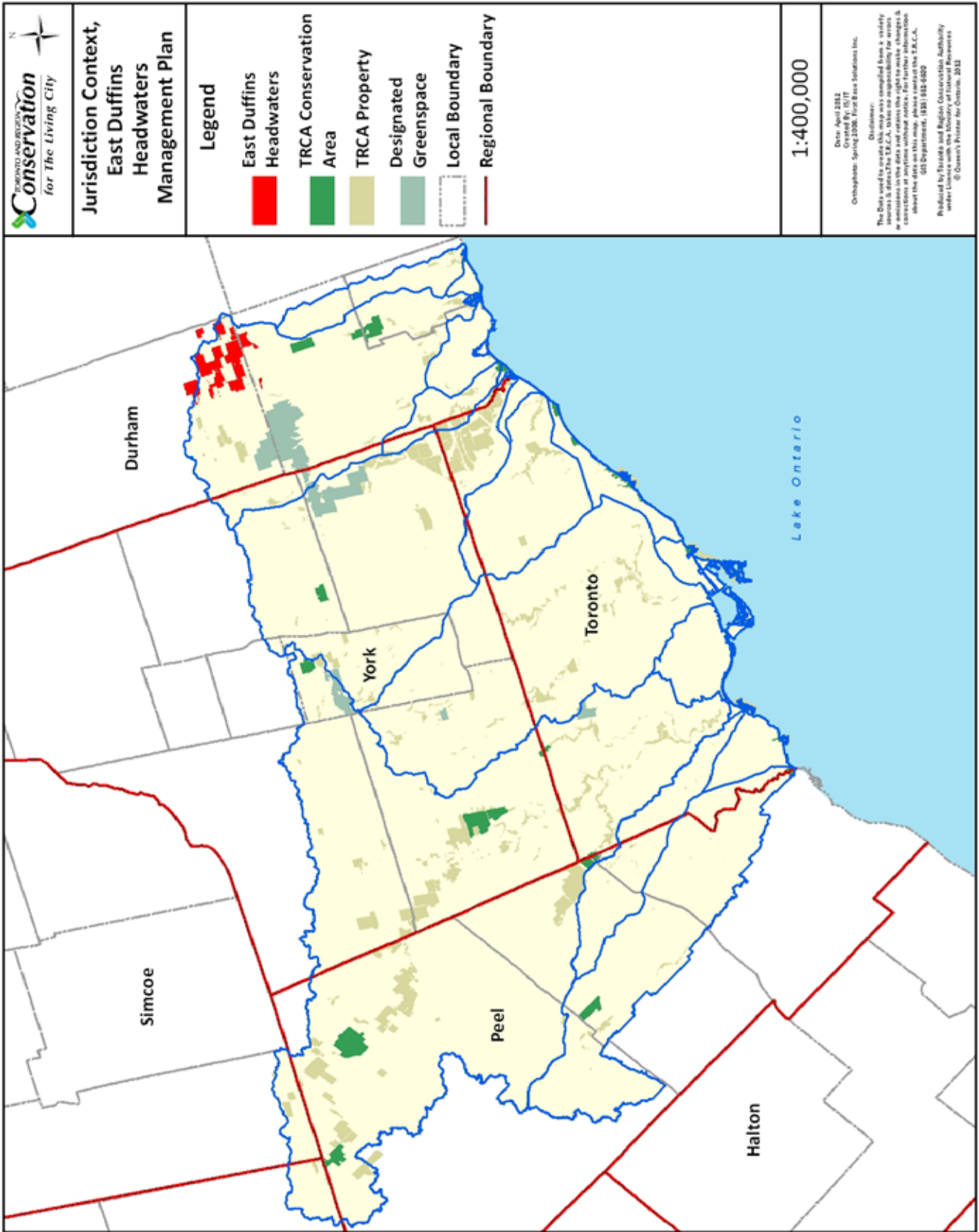
Situated in the upper reaches of the Duffins Creek watershed (Map 1.2), EDH is located in a largely rural portion of Durham Region. It should be noted however that future development plans for Coppins Corners and the Seaton Lands in Pickering will significantly increase the local population and have the potential to shift the demographic profile of the area. The establishment of Rouge National Urban Park, the implementation of the Greenwood Conservation Lands Master Plan, and the potential development of the Transport Canada lands in Pickering are also significant changes that may increase population pressure on the surrounding area.



EDH Aerial, 2016



Map 1.1 - EDH Properties



Map 1.2 - Jurisdiction Context

### 1.2.1 The Living City® Vision

The EDH Management Plan Update has been developed to be consistent with TRCA's vision for The Living City, which expresses TRCA's paramount commitment to safeguarding and enhancing the health and well-being of the residents of the Toronto region through the protection and restoration of the natural environment. This vision is articulated through *Building the Living City: TRCA's 10-Year Strategic Plan*.

The quality of life on Earth is being determined in rapidly expanding city regions. The vision of TRCA is for a new kind of community – The Living City® – where human settlement can flourish forever as part of nature's beauty and diversity. This vision of The Living City has four objectives:

**Healthy Rivers and Shorelines** – To restore the integrity and health of the region's rivers and waters from the headwaters in the Oak Ridges Moraine, throughout each of the nine watersheds in TRCA's jurisdiction to the Toronto waterfront on Lake Ontario.

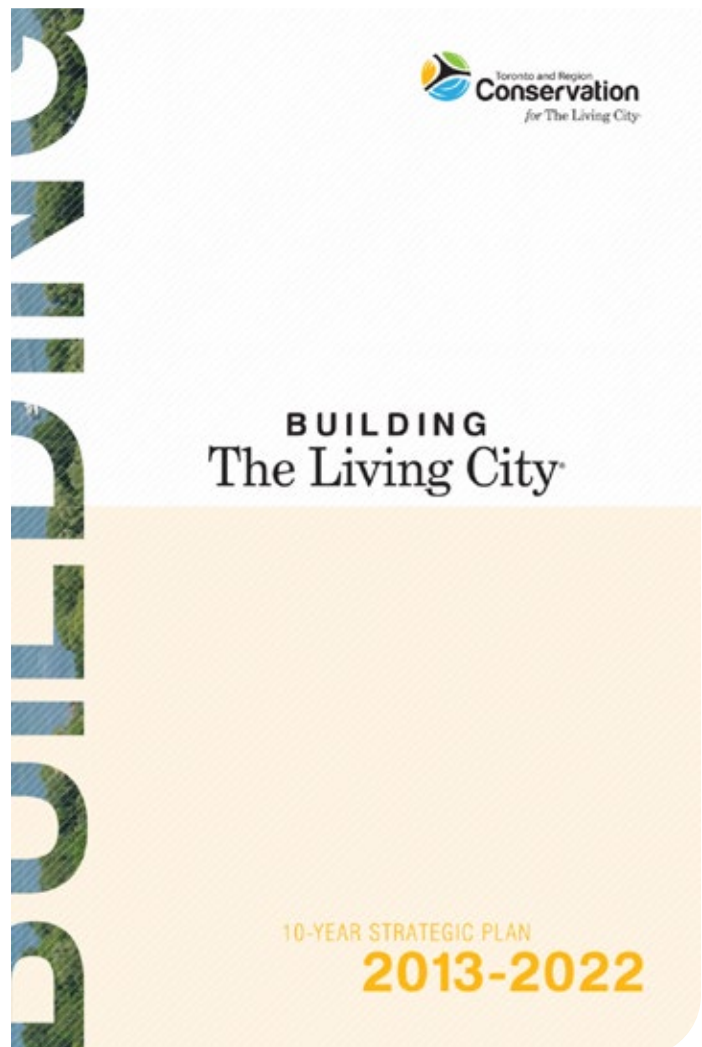
**Regional Biodiversity** – To protect and restore a regional system of natural areas that provide habitat for plant and animal species, improve air quality and provide opportunities for the enjoyment of nature.

**Sustainable Communities** – To facilitate broad community understanding, dialogue and action toward integrated approaches to sustainable living and city building that improves the quality of life for residents, businesses and nature.

**Business Excellence** – To produce continuous improvement in the development and delivery of all programs through creative partnerships, diverse funding sources, and careful auditing of outcomes and effectiveness.

TRCA maintains responsibility for ensuring the conservation, restoration and responsible management of Ontario's water, land and natural habitats located within TRCA's jurisdiction. This is accomplished through the development and implementation of programs and reports that aim to balance human, environmental and economic needs.

Two key TRCA Living City strategies that have been integrated into this Management Plan Update are: the *Terrestrial Natural Heritage System Strategy* (2007), and *A Watershed Plan for Duffins Creek and Carruthers Creek* (2003).



*Building the Living City:  
TRCA's 10-Year Strategic Plan*

### 1.2.2 TRCA's Terrestrial Natural Heritage System Strategy (2007)

The EDH Management Plan Update is consistent with TRCA's *Terrestrial Natural Heritage System Strategy* (2007). This strategy recognizes the implications of rapid urbanization in the GTA and is based on two principles:

1. Rare species protection is not enough for ensuring regional health.
2. The protection of more than "significant sites" is needed to ensure regional health.

This approach considers the site within the context of the region and regional pressures. It provides clear and detailed direction for gathering and analyzing information about natural habitats, vegetation communities and species, and forms the basis for developing strategies for their protection and restoration. This approach moves beyond the contemporary model of defining natural heritage systems based on a series of cores and corridors. It recognizes that all habitat patches have some value and make a contribution towards ecological health across the landscape. This approach evaluates a site's contribution at three levels:

1. The entire TRCA jurisdiction
2. Other defined areas or planning units, such as the watershed and subwatershed
3. Municipal boundaries

A key component of the TRCA *Terrestrial Natural Heritage System Strategy* is the scoring and ranking of vegetation communities and fauna species. This ranking information is used to determine if there are any species or vegetation communities of concern on the site. A second key component of the approach is the terrestrial natural heritage indicators and measures that are used to establish quantitative targets for the terrestrial ecosystem. The indicators are:

- Quantity of Natural Cover
- Distribution
- Matrix Influence
- Patch Size and Shape
- Landscape Connectivity
- Biodiversity



Spotted Newt, Glen Major, 2013

Terrestrial natural heritage information was gathered within and around the EDH property complex, and this information was used to determine appropriate management zones and trail alignments through the lens of the *Terrestrial Natural Heritage System Strategy*.

### 1.2.3 A Watershed Plan for Duffins Creek and Carruthers Creek (2003)

The vision and recommendations set out in *A Watershed Plan for Duffins Creek and Carruthers Creek* (2003) have been integrated into the EDH Management Plan Update to ensure a consistent watershed management approach. The Watershed Plan was designed to evaluate the potential effects of current and future watershed activities, and identifies management actions needed for watershed protection and enhancement. The watershed vision, developed by a task force of elected representatives, is as follows:

*“It is envisioned that the Duffins Creek and Carruthers Creek watersheds will be healthy, dynamic and sustainable watersheds that continue to have clean, safe water with functioning wetlands and diverse self-sustaining communities of native plants, fish and wildlife, where natural and human heritage features are protected and valued. Residents will recognize the watersheds as essential community resources that enhance their quality of life. All stakeholders will participate in the stewardship of the watersheds, and growth and development will reflect this vision and the importance of protecting and enhancing this priceless legacy.”*

This vision is supported by a management philosophy that promotes five key elements.

1. Net Gain
2. Environment First
3. Balanced Land Use
4. Human Health and Safety
5. Everyone Counts – Ownership, Commitment and Follow Through

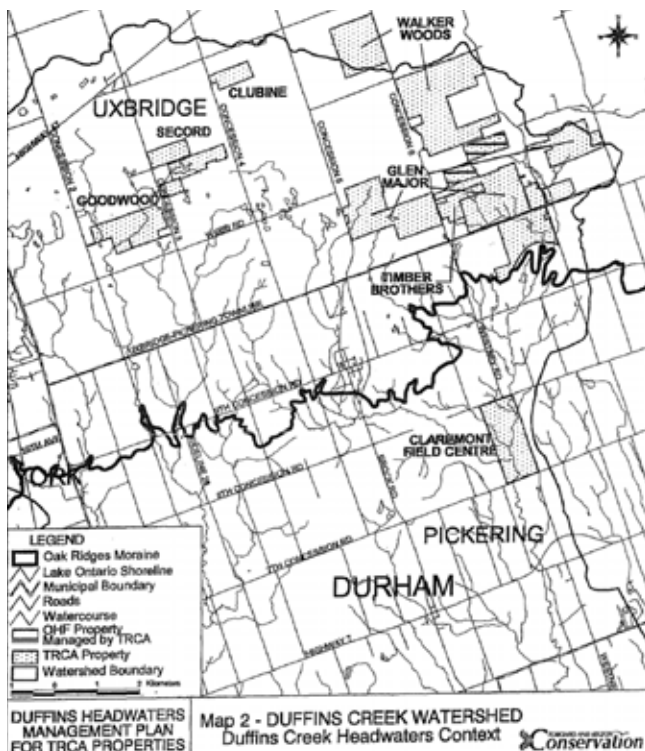
Indicators, targets and measures for management actions were set in the Watershed Plan. Integral management actions, which are the top priorities for implementation, can be found in *A Watershed Plan for Duffins Creek and Carruthers Creek*.

## 1.2.4 Duffins Creek Headwaters Management Plan for TRCA Properties (2003)

The *Duffins Creek Headwaters Management Plan for TRCA Properties (2003)* provides direction for the management of the properties in the upper reaches of the entire Duffins Creek. This includes not only lands within EDH, but also such lands as the Secord Forest and Wildlife Area, Goodwood Resource Management Tract, Clubine Agreement Forest and the Claremont Field Centre. The plan provides general management recommendations, management zones, a Trail Plan and an implementation plan for the properties.

Upon conducting a five-year review of this management plan, it was determined that significant changes related to property acquisitions, major restoration efforts, and shifts in recreational use warranted a focused update for the properties within the EDH area. The strengths and structure of the existing management plan have been retained in the update, while incorporating greater refinements and detail.

Additional plans, strategies and documents have been reviewed and incorporated into the EDH Management Plan Update. These are outlined in the *East Duffins Headwaters Management Plan Background Report (2012)*, which can be obtained by contacting TRCA.



Context map from the 2003 Duffins Creek Headwaters Management Plan for TRCA Properties

## 1.3 PROJECT PROCESS

Demand for public access to greenspace is increasing in the GTA, along with awareness of the importance of preserving and protecting these remaining natural spaces. There is also growing interest from various user groups, businesses and municipalities for outdoor recreation and education opportunities on public lands.

TRCA initiated the preparation the EDH Management Plan Update in 2008. The goal of this process was to protect the natural features within EDH while meeting the changing needs of the community through effective land management.

At Authority Meeting #08/08, Resolution #A237/08 was adopted directing TRCA staff to:

*"[E]stablish a Project Steering Committee and a Public Advisory Committee to facilitate the opportunity for public input, which would include members of the Glen Major Forest and Walker Woods Stewardship Committee, interested community groups, business representatives, community residents, agency staff, municipal staff and area councillors to assist with the completion of the East Duffins Creek Management Plan Update for Toronto and Region Conservation Authority (TRCA) properties; AND FURTHER THAT the final version of the management plan be presented to the Authority for approval."*

The planning process for the EDH Management Plan Update was undertaken in three phases, as follows:

### Phase One (October 2008 – March 2012)

- Update property inventories, including natural heritage data, geo-referenced trail locations, cultural heritage data, forest management data, restoration opportunities information and site securement data.
- Establish Project Steering Committee and Public Advisory Committee, and host meetings.
- Update plan vision, goal and objectives.
- Establish and circulate a project newsletter.

## Phase Two (December 2008 to June 2012)

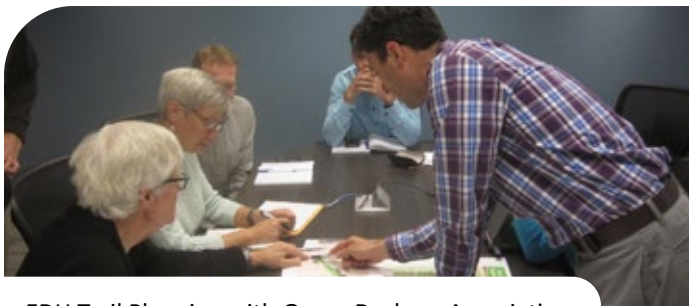
- Review and update management zones.
- Integrate updated watershed management recommendations.
- Develop a Site Securement and Protection Plan, including public use and hazard management.
- Review and update an overall Trail Plan for the properties, including plans for emergency response.
- Host Project Steering Committee and Public Advisory Committee meetings.
- Circulate a project newsletter update.
- Host one public meeting to review draft material.

## Phase Three (July 2011 – March 2013)

- Review and update management recommendations.
- Finalize draft Management Plan Update document.
- Finalize Site Securement and Protection Plan.
- Finalize Trail Plans.
- Host Project Steering Committee and Public Advisory Committee meetings.
- Host public meeting to present final draft Management Plan Update.
- Obtain partners and TRCA Board endorsement and/or approval of the final draft Management Plan Update.
- Circulate a project update newsletter.

### 1.3.1 Consultation and Engagement

Consultation and engagement with project partners and stakeholders, as well as the public was an integral part of developing the EDH Management Plan Update. The following sections outline the consultation process and identifies those engaged.



EDH Trail Planning with Green Durham Association

### 1.3.2 Project Steering Committee

The Project Steering Committee consisted of an internal TRCA staff working group with representation from key divisions including Property Services, Restoration Services, Ecology, Archaeology, Stewardship and Enforcement. This group commented on or contributed to every component of the Management Plan Update and guided the planning process.

### 1.3.3 Public Advisory Committee

The Public Advisory Committee worked with TRCA staff to develop the Management Plan Update vision, goal and objectives, management zones, management recommendations, and in particular the Trail Plan. TRCA drew on the longstanding Glen Major and Walker Woods Stewardship Committee as the Public Advisory Committee. This Public Advisory Committee is composed of user groups who visit EDH regularly and have important local knowledge of the area. The Committee provided technical input and assisted with the public consultation program.

**The Public Advisory Committee was responsible for the following major functions:**

- Ensuring that members of respective user groups/agencies/associations were adequately informed throughout the process.
- Providing commentary and input on plan elements.
- Identifying outstanding site issues and strategies for their resolution.
- Assisting TRCA with presentations and public forums, where appropriate.

**The Public Advisory Committee included representatives from the following groups and municipalities:**

- Durham Mountain Biking Association
- Green Durham Association
- Oak Ridges Moraine Land Trust
- Oak Ridges Trail Association
- Ontario Heritage Trust
- City of Pickering
- Region of Durham
- Trans Canada Trail Ontario
- Uxbridge Horsemen's Association
- Township of Uxbridge Environmental Advisory Committee

- Township of Uxbridge Council and staff
- Township of Uxbridge Watershed Advisory Committee
- Local residents

The Management Plan Update is the result of many months of work and commitment from this dedicated committee. Minutes from Public Advisory Committee meetings have been compiled and can be obtained from TRCA upon request.

After approval of the Management Plan Update, the Public Advisory Committee will continue to play an important role in plan implementation and ongoing management of the EDH property complex. After plan approval the Committee will be renamed as the EDH Stewardship Committee, and a focused Tracks Subcommittee will be formed to address trail-specific issues.

### 1.3.4 Public Consultation

At the outset of the management planning process it was identified that public use, enjoyment and stewardship of EDH would be an important community issue. As a result, public input was a priority in the development of plan components.

#### The public consultation program included:

- Meetings with interested organizations and user groups in the community to provide comment on specific plan components. During the planning process TRCA staff met with the cycling, equestrian and hiking communities to discuss proposed plans and public interest in the properties.
- Information sessions, newsletters and mailings to the public to share project updates.
- in-depth trail use data collection incorporating both infra-red trail counting technology and in-person/online surveys.
- Two public information sessions. The purpose of the first session was to present and obtain feedback from the public on draft plan components. The second was conducted to present the updated and revised plan components.

The public was generally supportive of the Management Plan Update and its components. The public, local community and trail users were kept informed and consulted throughout the management planning process. Concerns, comments and suggestions raised to TRCA were incorporated into the plan wherever possible.

### 1.3.5 Indigenous Engagement

Several cultural heritage features have been recorded on-site and as a result it was determined that Indigenous communities may have a special interest in the planning process.

A letter introducing the project with a brief synopsis of the vision, goal and objectives was sent to Indigenous communities in early 2012. A number of groups requested additional information and consultation regarding the project. As a result, a meeting with interested Indigenous groups and TRCA staff was held in June 2012.

Those Indigenous groups initially contacted were also sent an update package in January 2013. The information included an update on completed plan components and an updated progress schedule.



EDH Meadow, 2013

## 1.4 VISION

During the planning process a vision, goal and objectives were developed as a strategic foundation for the EDH Management Plan Update, providing overarching planning direction for the development of detailed management recommendations. The vision, goal, and objectives were created through a consultative process that included input from both the Project Steering Committee and the Public Advisory Committee.

The EDH Management Plan Update vision, goal, and objectives are consistent with the vision for *A Watershed Plan for Duffins Creek and Carruthers Creek* (2003).

### A Vision for the TRCA-managed Properties in the EDH:

As part of Toronto and Region Conservation's vision for The Living City, the East Duffins Headwaters properties will be a model for achieving biodiversity protection, enhancement and management on a provincially significant landform while providing for sustainable, healthy and enjoyable public experiences.

### Values:

**This vision will be achieved by managing and caring for the lands in ways that value:**

- An environment first approach.
- Protection and enhancement of integrated ecosystems, habitats and biodiversity.
- Large continuous and connected areas of core Oak Ridges Moraine lands.
- Community engagement and participation that fosters trust, respect and consensus.
- Public and private land stewardship efforts that improve the entire natural system and environmental function.
- Lifelong educational opportunities and experiences about nature and culture.
- Sustainable, safe and appropriate public uses.
- Scientific innovation and a commitment to work together to improve conservation.
- The protection of native species and biodiversity against the threat of invasive species.
- Properties that are safe and secure.

## 1.5 GOAL AND OBJECTIVES

The goal of the EDH Management Plan Update builds on the vision, remaining consistent with TRCA's Living City vision and *A Watershed Plan for Duffins Creek and Carruthers Creek* (2003). The goal is complemented by a number of key objectives to guide the development of specific components of the Management Plan Update.

### 1.5.1 Goal

To protect, enhance and steward the EDH properties to achieve watershed integrity and biodiversity in an engaged community, ensuring overall sustainability and public enjoyment.

### 1.5.2 Objectives

#### Natural Heritage

To protect existing key natural heritage features and restore the natural ecosystem by ensuring the integrity and diversity of native species, habitats, landscapes, and ecological processes. Ensure the connection of natural heritage features to one another and to adjacent areas.

#### Cultural Heritage

To identify and protect the cultural heritage features for their inherent value and depiction of the long-term human use and occupancy of the area.

#### Land Use

To ensure protection of ecological and cultural values through innovative and compatible land use planning, increasing protected lands, and encouraging sustainable land management practices.

#### Education

To encourage knowledge and understanding of the natural and cultural values of the land and water, along with their interrelated protection and management requirements.

#### Stewardship

To facilitate ongoing public involvement and partnerships that foster sustainable living, and will accomplish watershed management objectives as well as implement Management Plan Update recommendations.

#### Public Use

To provide opportunities for appropriate and accessible public uses that are consistent with all other objectives.



## 2.0 MANAGEMENT ZONES

## 2.1 MANAGEMENT ZONES SUMMARY

Management zones have been developed as part of the EDH Management Plan Update to guide how the properties are managed, where ecological features must be protected, where public use and trails will be permitted, and where restoration efforts will be focused. Each unique management zone permits specific activities within its boundaries. The zones are distinguished by their different levels of ecological protection, management needs, and acceptable levels and types of public use

Table 2.1 summarizes the nine management zones designated for the EDH lands. The table provides a description of each zone type, identifies the permitted intensity of use and describes the permitted resource use within each zone.

TABLE 2.1 EDH MANAGEMENT ZONE DESCRIPTIONS AND PERMITTED RESOURCE USES			
Management Zone	Description	Permitted Intensity of Uses	Resource Uses
<b>Nature Reserve – Category 1</b>	Areas that have significant or unique natural features, landforms, species or habitats that require careful management to ensure long-term protection.	None to low intensity.	Fish, wildlife, cultural heritage research and forest management. Public access is restricted.
<b>Nature Reserve – Category 2</b>	a 20-metre corridor area surrounding authorized trails. Intended to act as transition areas to buffer public impact on Nature Reserve and Natural Environment zones.	Low intensity limited to trail use only.	Fish, wildlife and cultural heritage research, forest management. Public access is restricted to walking, hiking, cycling, leashed dog walking, horseback riding, cross-country skiing on authorized local and inter-regional trails and the use of associated low impact comfort stations only.
<b>Natural Environment – Category 1</b>	Large core habitat areas and corridors that are natural in character but do not meet the criteria of the Nature Reserve zones. Category 1 Natural Environment areas have a trail density threshold of less than 120 m/ha.	None to low intensity.	Fish, wildlife, cultural heritage research and forest management. Intrusion into interior habitat will be minimized. Public access is restricted to walking, hiking, cycling, leashed dog walking, horseback riding, cross-country skiing on authorized trails and the use of associated low impact comfort stations only.
<b>Natural Environment – Category 2</b>	Large core habitat areas and corridors that are natural in character but do not meet the criteria of the Nature Reserve zones. Category 2 Natural Environment areas may have a trail density threshold of greater than 120 m/ha.	None to low intensity.	Fish, wildlife, cultural heritage research and forest management. Intrusion into interior habitat will be minimized. Public access is restricted to walking, hiking, cycling, leashed dog walking, horseback riding, cross-country skiing on authorized trails and the use of associated low impact comfort stations only.
<b>Cultural Heritage Preserve</b>	Areas of cultural heritage significance. Intended to act as an area to protect and highlight the cultural heritage resources of the management zone.	None to low intensity.	Fish, wildlife, cultural heritage research and forest management. Intrusion into this zone will be minimized, and any resource use will avoid cultural heritage resources and interior habitat. Public access is restricted.

**TABLE 2.1 EDH MANAGEMENT ZONE DESCRIPTIONS AND PERMITTED RESOURCE USES**

Management Zone	Description	Permitted Intensity of Uses	Resource Uses
<b>Restoration</b>	Locations identified as priority sites for potential forest management and habitat improvement projects to take place. It should be noted that restoration projects may take place across all other zones if identified as necessary.	None to low intensity.	Fish, wildlife, cultural heritage research and forest management. Appropriate restoration efforts. Public access is determined by the zone upon which the restoration designation is superimposed.
<b>Lease – Residential</b>	Areas containing a residential dwelling that is leased by TRCA.	Low to moderate intensity uses associated with normal residential activities.	Fish, wildlife, cultural heritage research and forest management. Low to moderate intensity uses associated with residential properties. Public access is restricted.
<b>Lease – Agricultural</b>	Areas containing existing agricultural leases.	Moderate to high intensity uses associated with normal agricultural land uses.	Fish, wildlife and cultural heritage research, forest management, crops, horticultural nursery operations, and associated buildings. Public access is restricted.
<b>Public Use</b>	Areas associated with large access points and parking lots.	Moderate to High.	Fish, wildlife, forest management and research. Grading and soil compaction associated with motor vehicle parking lots.

The EDH management zones prioritize the conservation of the area’s ecological and cultural integrity. While EDH currently represents a largely intact natural area, these lands have a legacy of modification due to human impact. Impacts have included pioneer related deforestation, wind erosion, subsequent reforestation and, in some cases, gravel extraction and associated aggregate site restoration. While the EDH properties have largely regenerated to very high ecological quality, some areas may still need improvement or restoration works to achieve their full potential. A priority in developing these management zones is to establish a system that will protect the undisturbed and intact environments on the site while still providing some opportunities for public access via a system of approved trails.

## 2.2 NATURE RESERVE CATEGORY 1 AND 2

Various ecological criteria were determined to identify areas sensitive to disturbance. These criteria include: the area of interior forest cover, rare or sensitive ecological communities, rare or sensitive flora and fauna, Ontario Species at Risk (as per *Ontario Regulation*

230/08), federally protected flora and fauna habitat, provincially significant wetlands, amphibian and ground nesting bird habitat, and areas of minimal existing disturbance. Locations where these criteria are concentrated have been designated as Nature Reserve Category 1.

Recreational uses within Nature Reserve Category 1 are not permitted. Permitted uses include natural and cultural heritage research and forest management activities only. Public use is restricted from these zones.

Understanding that some public access may be necessary near or through lands identified as Nature Reserve Category 1, a 20-metre corridor surrounding some existing trails has been identified as a transition zone to allow for trail work and maintenance to occur. These transition areas have been identified as Nature Reserve Category 2 zones.

Permitted uses within Nature Reserve Category 2 zones will be minimized and only located where absolutely necessary. Permitted resource uses include natural and cultural heritage research, forest management, and activities associated with normal trail management.

Public use is restricted to walking, hiking, cycling, leashed dog walking, horseback riding, cross-country skiing on authorized trails and the use of associated low impact comfort stations only.



EDH Kettle Wetland, 2011

## 2.3 NATURAL ENVIRONMENT CATEGORY 1 AND 2

In the summer of 2009, a joint team of researchers from TRCA and the University of Toronto looked at trail density and biodiversity at 10 locations throughout the TRCA jurisdiction, including sites in EDH. Fifty flora species were selected for sampling according to ecological sensitivity/requirements criteria developed by TRCA. The purpose of the study was to determine the impact of trail density on those species generally, as well as to determine if species sensitivities and needs could be correlated to those impacts in order to provide further management recommendations. Data on the presence and absence of those species was collected within a series of plots, as a way of measuring biodiversity on the site. Trail density was assessed based on existing trail mapping layers, then measured against the index of biodiversity.

The results of the study looked at a number of different aspects of trail density and biodiversity; biodiversity measures were generally seen to decrease once trail density reached 120 m/ha. This figure has been used to guide the determination of the Natural Environment Category 1 and 2 zones.

The study provides a useful approach for determining trail density and its impact on biodiversity. However, two observations must be made:

1. The 120 m/ha threshold is a valuable planning tool but not an absolute number. Management considerations may determine that although this trail density level corresponds to moderate biodiversity levels, it may be desirable to have

higher or lower levels of biodiversity in any given area.

2. The study formed part of a larger, multivariate analysis looking at the many variables that impact trails and biodiversity. Variables, such as trail width, user numbers, trail location, etc., that were not studied would also be considered when determining the impact of and desired trail densities.

Natural Environment Category Areas are areas that are capable of withstanding passive public use. These areas are typically more resilient to human activity and can sustain various forms of passive recreation. This designation may also be assigned to areas considered to be ecologically healthy but which may require various environmental enhancements.

Natural Environment Category 1 areas have a trail density below 120 m/ha. Areas that have been found to be able to withstand trail densities above 120 m/ha have been designated as Natural Environment Category 2. Some lands have pre-existing trail leases that preclude TRCA from decreasing trail densities in those areas; these areas have also been identified as Natural Environment Category 2.

Permitted uses within both Natural Environment Category 1 and 2 zones will be minimized to the extent possible. Permitted resource uses include natural and cultural heritage research, forest management works, and activities associated with normal trail management. Public use is restricted to walking, hiking, cycling, leashed dog walking, horseback riding, cross-country skiing on authorized trails and the use of associated low impact comfort stations only.



Trail Bridge, 2016

## 2.4 CULTURAL HERITAGE PRESERVES

Cultural Heritage Preserves have been designated based on a known or high potential for Indigenous or early European settlements, present either above or below grade. Boundaries of these zones have been determined by delineating a buffer area around a known feature or by designating an area where there is a high likelihood of additional cultural heritage findings.

Permitted uses within Cultural Heritage Preserves will be minimized to the extent possible. Permitted resource uses include natural and cultural heritage research and forest management works only. Public use is restricted from these zones.



Wilder Cabin, 2013

## 2.5 LEASES – RESIDENTIAL AND AGRICULTURAL

Areas where residential houses or agricultural fields are under lease agreements to TRCA are zoned as Residential Lease and Agricultural Lease. The boundaries of these zones are determined by individual lease agreements.

Permitted uses for Residential Lease areas include low to moderate intensity uses of land associated with normal residential activities. Permitted uses for Agricultural Lease areas include moderate to high intensity uses associated with normal agricultural activities.

## 2.6 PUBLIC USE

Portions of the EDH complex designated for high levels of public use, such as large access points or parking lots, have been identified as Public Use zones.

Permitted uses are moderate to high intensity uses of land associated with large access points, trail heads and vehicle parking lots.

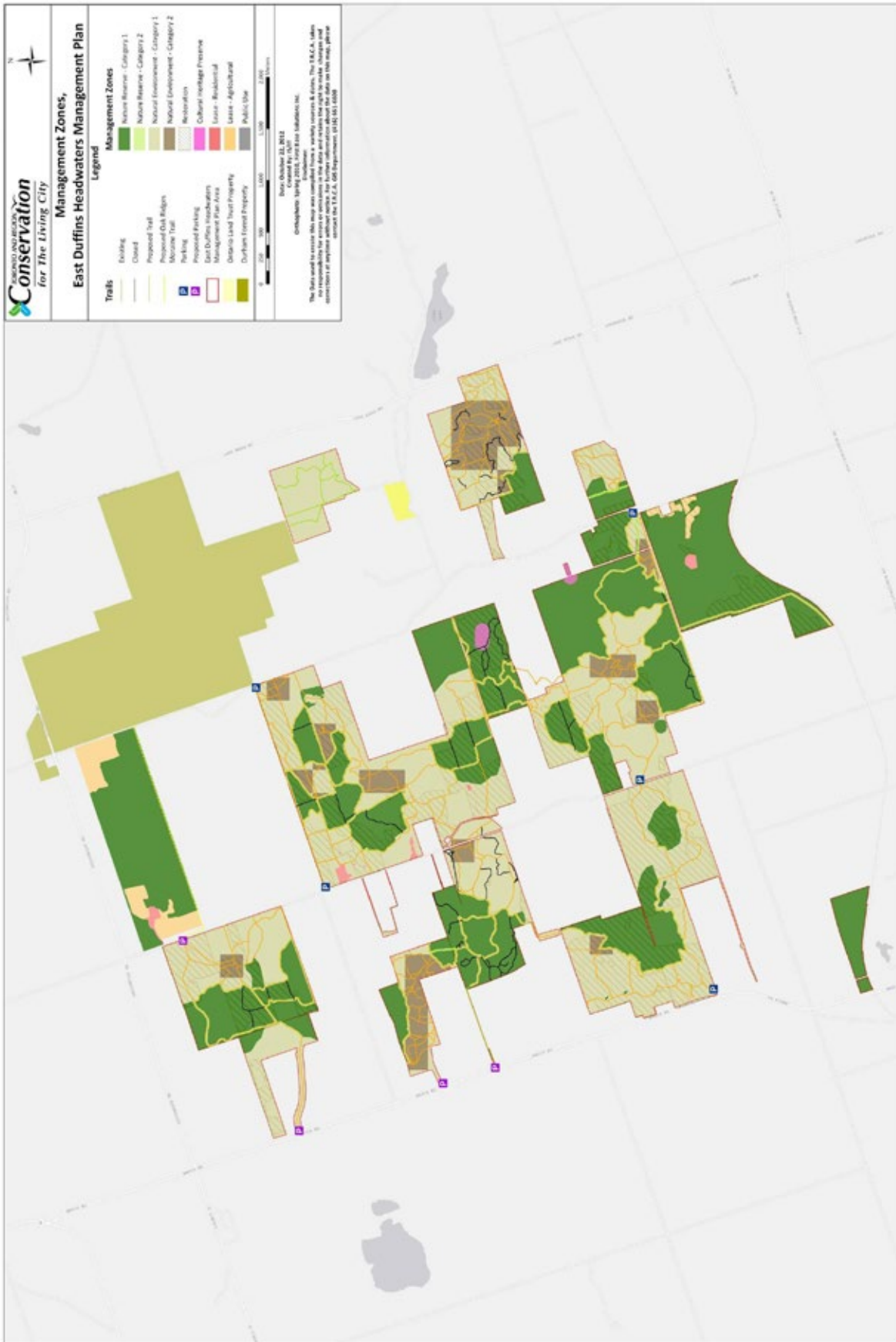
## 2.7 RESTORATION

Restoration zones are areas in EDH that have been identified under the *Duffins Habitat Implementation Plan* (2006), the *Draft Duffins Creek Watershed Wetland and Riparian Opportunities Plan* (2008), or the *TRCA Managed Forest Plan* (1998). These are areas scheduled for regular forestry maintenance or identified as opportunities for habitat improvement.

The Restoration zones are designated as an overlay to the other management zones. Restoration activities are intended to improve the existing natural environment and should not influence the permitted uses identified on any individual lands (except during the actual implementation of restoration works which may cause temporary disruption).

While priority restoration areas have been identified as an overlay zone, restoration activities may take place on any portion of the property where it is necessary or appropriate to do so.

Map 2.1 identifies the various EDH management zones, including the overlay of priority restoration areas.



Map 2.1 - Management Zones



## 3.0 MANAGEMENT RECOMMENDATIONS

Management recommendations will guide the actions of TRCA, its partners and stakeholders to ensure that EDH will remain a healthy and vital part of the Duffins Creek watershed. The recommendations have been classified into the following categories: natural heritage protection, restoration, cultural heritage protection, trails, site stewardship, and funding. These management recommendations build on the vision, goals, objectives, and management strategies for the Watershed Plan for Duffins Creek and Carruthers Creek (2003).

Each management recommendations section contains general management recommendations and specific management actions if applicable. The general management recommendations are broader strategic statements, while the management actions are intended to be more targeted and measurable. While most management recommendations are detailed in this Chapter, other management recommendations and actions specific to the Site Securement and Protection Plan and the Trail Plan are provided in Chapters 4 and 5, respectively. A consolidated list of management recommendations and actions is detailed in Appendix B.

## 3.1 NATURAL HERITAGE PROTECTION

EDH will be managed with an “environment first” approach, meaning that natural heritage protection will be a key driver of all management recommendations. This approach will influence items such as restoration projects, stewardship programs, and the design and construction of trails. The recommendations included in this section focus on the protection, enhancement and monitoring of the natural heritage resources in EDH.

An important objective of the Management Plan Update is to protect and restore natural heritage features and systems. EDH includes a wide range of valuable habitat types, including sand barrens, coldwater streams and valley land forests. Ensuring the protection of these habitats and the important role they play in sustaining ecosystem connectivity is the focus of the following recommendations.

### Management Recommendations:

- r1. For both aquatic and terrestrial ecosystems, monitoring of flora, fauna and overall ecosystems conditions is recommended. This should be achieved through continuing the monitoring initiatives already in place and expanding these efforts where gaps exist.
- r2. Limit any land use changes (e.g., loss of natural cover) that will reduce the matrix influence score.
- r3. Protect and restore groundwater recharge and discharge locations and pathways.
- r4. Consider the effects of management actions on groundwater drainage, seepage and recharge zones (e.g. parking lots).
- r5. Pursue the expansion of contiguous natural heritage protection areas through acquisition of select private lands.

### Management Actions:

- a1. Ensure salt is not used in any TRCA winter management of trails and parking lots.
- a2. Investigate the need for additional groundwater monitoring sites to assess hydrological impacts of pending development on surrounding lands.
- a3. Ensure all management work occurs during appropriate seasons and timing windows to minimize impacts on vegetation, breeding birds, and dispersing or migrating amphibians.
- a4. Replace exotic species with site-appropriate native plants.

#### 3.1.1 Terrestrial Invasive Species

One of the greatest threats and obstacles to the continued health of EDH is the infestation of invasive species. Between 2006 and 2011, TRCA Conservation Lands staff undertook some targeted invasive management of vascular invasive plant species with some success, specifically dog-strangling vine (*Cynanchum rossicum* and *C. louiseae*), garlic mustard (*Alliaria petiolata*) and common buckthorn (*Rhamnus cathartica*). However further study is required to formally establish the extent of invasive infestation on the properties, identify the priority sites, and determine the most effective use of available resources for targeted invasive species management.

Areas of successional habitat, areas of higher intensity public use, or areas where soil disruption has occurred are at increased risk of invasive species infestation. Active management is needed to ensure native species have the opportunity to colonize before invasive species spread. This objective can be met through restoration efforts and invasive species control. Important invasive species to target include: common buckthorn, garlic mustard, dog-strangling vine and common reed (*Phragmites australis*).

### Management Recommendations:

- r6. Develop a property specific invasive control plan based on the forthcoming TRCA Invasive Species Management Strategy.
- r7. Use best management practices to control invasive species.

### Management Actions:

- a5. Inventory invasive species works already completed at EDH.
- a6. Map invasive species within the study area.
- a7. Establish priority locations for invasive species treatment and/or monitoring.
- a8. Note occurrences of giant hogweed (no known occurrences) and other high priority exotic invasives.
- a9. Monitor historic garden sites for the presence and spread of invasive horticultural species.
- a10. Develop an invasive species prevention campaign targeting new residents to spread awareness about the impacts of non-native species and the live releasing of aquatic species into rivers and ponds.

### 3.1.2 Species of Concern

Many management recommendations will contribute indirectly to protecting species of concern on the EDH properties through general habitat improvement, such as hydrology monitoring, habitat restoration, and a carefully located trail system. However, there are specific management tactics that can directly assist in protecting identified species of concern through targeted action.

These tactics are listed below:

### Management Recommendations:

- r8. Obtain all necessary regulatory permits and approvals required under governing acts and regulations prior to commencing any implementation activities, including restoration work and Trail Plan implementation.
- r9. Tailor ecological restoration plans to target habitat improvements for species of concern.

### Management Actions:

- a11. If necessary, conduct targeted searches for flora species known only from historical records and believed extirpated from the site.

### 3.1.3 Hydrology

The hydrological integrity of EDH is crucial for the local wetland and forest communities and the overall health of the watershed. Many important species found at EDH are part of aquatic or wetland communities therefore water features are a considerable point of vulnerability for the study area.

The Glen Major property in particular includes areas of major groundwater recharge and discharge. Studies conducted by TRCA indicate that local EDH tributaries are of high quality overall. However overall quality may overlook deficiencies in specific indicators, such as the index of biotic integrity, species richness scores and the on-the-ground assessment of local aquatic habitat. Natural and anthropogenic in-stream barriers have been identified as factors impacting aquatic habitat. Further flow restrictions or alterations to sensitive hydrological areas may pose negative implications to biodiversity both on-site and further downstream.



Stream in Glen Major, 2011

### Management Recommendations:

- r10. Complete geo-referenced inventory of existing wells.
- r11. Analyze chemistry of groundwater discharge to gain better understanding of site conditions.
- r12. Continue aquatic biodiversity monitoring in the east branch of the East Duffins Creek in support of regional monitoring programs.
- r13. Assess site impacts of past and present land uses and develop mitigation plan, if required.
- r14. Investigate opportunities to mitigate the effects of anthropogenic in-stream barriers within EDH and neighbouring properties.
- r15. Investigate and mitigate potential impacts to local aquifers by previous land uses.

### Management Actions:

- a12. Develop a water monitoring plan for the site.
- a13. Consult hydrological recharge models prior to parking lot and trail construction to ensure infiltration and water balance are maintained.

## 3.2 RESTORATION

TRCA habitat restoration efforts protect and restore ecosystem function and resilience. Functioning healthy ecosystems provide improved water quality and quantity, air quality, soil stabilization, balanced hydrologic regimes, and wildlife habitat. Impairment occurs when ecosystem processes have been altered. Restoring ecosystem function reverses these impairments, facilitates sustainable natural succession, and re-establishes the building blocks of a healthy natural system. Restoring and improving EDH's natural ecosystem function is a key part of the Management Plan Update's natural heritage objective.

**Restoration work is based on identifying ecological impairments and improving ecosystem function across the following areas:**

### Hydrology

Restoring natural hydrologic function by reversing, repairing or mitigating alterations and impairments.

### Natural Cover

Restoring and increasing natural cover on the landscape (wetland, riparian, forest and meadow).

### Landform

Restoring natural landform and soil processes to promote self-sustaining and properly functioning communities.

### Species

Restoring critical habitat for target species concurrent with a properly functioning natural system.

EDH includes significant natural cover and contains some of the highest-quality natural systems in TRCA's jurisdiction. However certain areas within EDH have experienced historical deforestation, agriculture and aggregate extraction, resulting in environmental degradation and impairment such as loss of natural cover, impaired drainage and wetland cover, poor habitat connectivity or disturbed soils. Restoration within the EDH properties should focus on improving natural cover and repairing the detrimental impacts of past land uses.

Portions of the EDH properties have been assessed for restoration opportunities under the *Duffins Creek Watershed Habitat Implementation Plan* (2006) and the *Duffins Creek Watershed Wetland and Riparian Opportunities Plan* (2008). These two documents identify and prioritize restoration opportunities within the entire

Duffins Creek watershed for implementation.

The Habitat Implementation Plan identifies portions of the Brock Tract as a priority restoration site. Targeted restoration opportunities for this site include reforestation, meadow restoration, wetland restoration and surcharging critical habitat structures where appropriate.

The Restoration Opportunities Plan identifies approximately 20 locations for riparian or wetland restoration in the vicinity of the EDH properties. Additional opportunities exist in local watercourses (e.g., mitigating in-stream barriers to fish passage).

### Management Recommendations:

- r16. Restoration opportunities should maximize benefits to ecosystem goods and services.
- r17. Restoration activities should be site-specific and aim to restore proper ecosystem function based on hydrology, natural cover, landform and species community.
- r18. Restoration projects should restore natural succession and improve the quality of headwater drainage features.
- r19. Restoration efforts should maximize benefits for native species, including Species at Risk and their associated habitat requirements.
- r20. Continue ecological monitoring of specific restoration projects and the EDH properties as a whole.
- r21. Investigate opportunities to partner with individuals or organizations to implement restoration opportunities within EDH and the surrounding area.

### Management Actions:

- a14. Implement restoration activities as per the habitat implementation program for the Duffins watershed, as outlined in the *Duffins Habitat Implementation Plan* (2006) and the *Draft Duffins Creek Watershed Wetland and Riparian Opportunities Plan* (2008).
- a15. Implement forestry activities as per the *TRCA Managed Forest Plan* (1998).



Fish Community and Habitat Monitoring, 2015



TRCA Restoration Work in EDH, 2012

### 3.3 CULTURAL HERITAGE PROTECTION

EDH has been inhabited and impacted by humans for thousands of years, first by Indigenous people and later by European settlers. Archaeological sites have been identified within and around EDH, and other areas have been noted as having high archaeological potential.

An objective of the Management Plan Update is to identify, document and protect the cultural heritage resources within EDH, as well as to increase awareness and appreciation of these significant resources. The following recommendations support this objective:

#### Management Recommendations:

- r22. Identify, protect and conserve all archaeological sites within the EDH lands.
- r23. Pursue opportunities to preserve and interpret cultural heritage sites for public education.
- r24. Engage Indigenous communities regarding any significant Indigenous archaeological findings on-site.

#### Management Actions:

- a16. Develop interpretive resources for identified cultural heritage features, including signage along a cultural heritage interpretive trail.
- a17. Initiate a request for proposals to restore the Walker sawmill and accessory buildings as an interpretive feature.
- a18. Complete required archaeological assessment prior to any land disturbance.
- a19. Take required actions to address issues that may compromise known cultural heritage sites.

### 3.4 TRAILS

A key component of the Management Plan Update is a safe, accessible, enjoyable trail system that protects the EDH environment. This trail system will help fulfill the Management Plan Update's public use objective, providing opportunities for appropriate nature-based recreation. This trail system will permit activities such as hiking, leashed dog walking, cycling, cross-country skiing, snowshoeing and equestrian use.

The proposed trail network will be connected to the Oak Ridges Trail system and Trans Canada Trail system. Key linkages with surrounding lands, such as the Durham Regional Forest, will also be important features of the trail system.

A fulsome Trail Plan is outlined in Chapter 5 which includes focused recommendations and actions relating to trail design, location, maintenance, permitted uses and signage. The management recommendations below provide strategic guidance for this Trail Plan.

#### Management Recommendations:

- r25. Allow for low impact trail uses, such as hiking, cycling, horseback riding, snowshoeing, cross-country skiing, wildlife viewing and on-leash dog walking within permitted trail corridors only.
- r26. Avoid locating trails within Nature Reserve Category 1 and Cultural Heritage Preserve zones.
- r27. Investigate options to connect all EDH properties through a system of trails.
- r28. Continue to permit and improve connections between EDH and adjacent or near-adjacent public lands.
- r29. Support and manage the Oak Ridges Trail and the Trans Canada Trail on EDH properties.
- r30. Create a continuous network of off-road trails emphasizing loops and connections, providing trail users with a variety of route options and experiences.
- r31. Work with local and regional emergency service providers to address safety concerns and issues limiting their response time within the trail system.

#### Management Actions:

- a20. Ensure all trail construction, improvements, naturalization or closures are carried out in accordance with TRCA's *Trail Strategy for Natural Areas* (currently in draft form).
- a21. Obtain all necessary regulatory permits and approvals prior to commencing any potentially disruptive trail management or implementation activities, including trail development and parking lot construction.

- a22. Provide interpretive amenities and educate users about proper trail etiquette and environmental issues.
- a23. Decommission and restore all informal trails that are not slated to become part of the formal trail system.
- a24. Develop a trail guide, trail head signs and a wayfinding system for the EDH trail system.

### 3.5 SITE STEWARDSHIP

In the coming decade, portions of Coppins Corners and the Seaton Lands will see development to accommodate a considerable number of new residents. For EDH, these new residents represent both potential population pressure and an opportunity to recruit new local greenspace stewards. Promoting local participation in the ongoing management of EDH is an important part of fulfilling the Management Plan Update’s Stewardship objective. The following sections outline key initiatives to mitigate the pressures posed by these large nearby developments and effectively engage the public in stewardship opportunities.



Trail Building Event in EDH, 2006

#### 3.5.1 Site Securement and Protection

The purpose of site securement and protection is to identify and address encroachments, unauthorized built structures, gates, access points, boundary fence conditions and dumping that may pose a safety concern or provide opportunities for unauthorized use.

A preliminary Site Securement and Protection Plan was developed in 2010 which identified numerous site securement issues and developed a schedule to address them. Efforts have since continued to block unauthorized use, mitigate property damage and ensure public safety. This includes the removal of the climbing wall and water slide from the Pleasure Valley, posting

property boundary signage, installing gates and barriers at access points, removing waste and hazards, conducting building assessments for potential public safety concerns, removing unsafe built features, and decommissioning informal trails.

An updated version of the Site Securement and Protection Plan for EDH can be found in Chapter 5. This chapter contains an updated inventory of all known access points, trails, hazards and encroachments within EDH. The chapter also outlines a method of prioritizing the resolution of site securement issues and includes some select priority site securement actions.

Given the long history of both authorized and unauthorized use within the EDH, continued monitoring will be required to ensure unauthorized uses are addressed promptly and natural and cultural heritage features remain protected.

The management recommendations below present strategic guidance for site securement and protection activities in EDH and provide a foundation for the Site Securement and Protection Plan.

#### Management Recommendations:

- r32. Ensure continual monitoring and management of unauthorized uses to prevent environmental damage, protect public health and safety, and reduce maintenance costs.
- r33. Work with the Durham Regional Police Service and municipal by-law staff where necessary to address unauthorized use on the site.

#### Management Actions:

- a25. Undertake regular monitoring of all property boundaries. Monitoring should assess fencing, identify any new unauthorized access points, note condition of trail heads, signage, etc.
- a26. Post signage along property boundaries identifying permitted access points and permitted uses.
- a27. Regularly inspect and repair unauthorized access points to ensure barriers or fences are intact.
- a28. Proactively inform new homeowners of permitted uses on TRCA lands through methods such as homeowner information packages, regular distribution of newsletters, and proper signage.
- a29. Promptly decommission any informal trails, bike stunts or other structures that are identified during property audits or through the Trail Captains program.



Waste Removal at Walker Woods, 2013

### 3.5.2 Community Outreach and Engagement

Through the management planning process, various partnerships have been developed between TRCA and the local community and user groups. These partnerships were strengthened through the Public Advisory Committee, the public information sessions and other events in the EDH area. Local stewardship will continue to grow during the implementation of the Management Plan Update through TRCA's ongoing work with the EDH Stewardship Committee, the Trail Captain program and other public events directed towards protecting EDH.

TRCA's communication and partnership with the EDH Stewardship Committee is of particular importance to sustaining a successful stewardship program within EDH. The EDH Stewardship Committee represents important community leadership, acting as an important advocate for the Management Plan Update and encouraging the public to become part of local volunteer and stewardship efforts. TRCA fully intends for the EDH Stewardship Committee to help spearhead implementation of the Management Plan Update. TRCA supports the growth and diversity of this Committee to include local area residents, regional visitors, local naturalists, representatives from the various permitted user groups in the area, and representatives from local municipalities.

#### Management Recommendations:

- r34. Continue to work with the EDH Stewardship Committee, who will help oversee, guide, and assist with the implementation of the Management Plan Update recommendations.
- r35. Engage local residents and community groups in stewardship programs that will improve EDH, further the Management Plan Update implementation and foster community stewardship.

#### Management Actions:

- a30. Review and re-establish the terms of reference for the former Glen Major and Walker Woods Stewardship Committee that outlines roles and responsibilities and rename as the EDH Stewardship Committee.
- a31. Work collaboratively with members of the EDH Stewardship Committee to create annual work plans for the committee based on the Management Plan Update.
- a32. Work with regional and municipal partners to determine appropriate stewardship events.
- a33. Specifically target local school groups and community groups to focus stewardship events and educational programs.
- a34. Organize volunteers according to interests and skills, while ensuring such tasks as communications, boundary and trail monitoring, minor trail maintenance, and project fundraising work are addressed.

### 3.5.3 Trail Captains

One component of the EDH stewardship program which has already demonstrated success is the Trail Captains program. Under this program, volunteer Trail Captains assist TRCA in regular trail monitoring, light trail maintenance, and reporting larger maintenance issues to TRCA.

#### Management Actions:

- a35. Continue the Trail Captain program to involve local community members as trail stewards to help monitor and maintain the trail system.
- a36. Continue to develop trail monitoring schedules to be carried out by the Trail Captain program.



Trail Build in EDH, 2006

### 3.5.4 Outreach Materials

Education and outreach materials will be key to spreading the message of stewardship and conservation. During the management planning process, information about the properties and the management planning process was distributed regularly to surrounding residents by way of a project newsletter (*The Woods*). This newsletter was a collaborative effort between TRCA departments along with project partners, stakeholders and community groups. This collaborative approach will continue to ensure consistent messaging is being distributed.

Going forward, a newsletter will be produced twice a year and will be distributed online to local residents, businesses, community centers, town halls and libraries. Along with plan implementation updates, content will include event listings and general interest articles. Other TRCA pamphlets, such as trail guides, may also be inserted in the newsletter.

#### Management Actions:

- a37. Proactively inform new homeowners of permitted uses on TRCA lands through methods such as homeowner information packages, regular distribution of newsletters, and proper signage.
- a38. Continue to produce *The Woods* in a collaborative fashion and distribute to local area residents.

## 3.6 FUNDING

Implementation of the EDH Management Plan Update will require significant financial support. Fortunately, many potential municipal and community-based partnership opportunities exist to assist with funding requirements. The input of community organizations and municipal partners has been instrumental in developing the Management Plan Update document, and the support of these partners will play an important role in implementing the plan. Plan implementation will assist the Town of Uxbridge, the City of Pickering and Durham Region toward achieving some of their own planning and policy objectives. TRCA will continue to support existing partnerships, and will also seek out new partnerships, funding and grant opportunities to support the implementation of the Management Plan Update in cooperation with all project partners.

#### Management Recommendations:

- r36. Explore partnership opportunities to support project implementation with the Township of Uxbridge, the City of Pickering, the Regional Municipality of Durham, local community groups and other interested stakeholders.

#### Management Actions:

- a39. Investigate opportunities to obtain funding support from non-traditional sources.



Aggregate Pit Restoration Partnership, 2003



## 4.0 SITE SECUREMENT AND PROTECTION PLAN

## 4.1 PURPOSE

The primary purpose of the Site Securement and Protection Plan is to identify access points, gates, boundary fencing, encroachments, and built structures on EDH properties. This plan also identifies areas where there is potential for encroachments or unauthorized access to develop in the future. Both existing and potential site securement issues are evaluated and prioritized for removal or resolution. The Site Securement and Protection Plan is an important step in assessing the condition of a property and in eliminating safety concerns on TRCA land.

## 4.2 DATA COLLECTION METHODS

At the core of the Site Securement and Protection Plan is a boundary audit system whereby TRCA Conservation Lands staff use hand GPS devices (Trimble GeoXT) to collect property data in the field.

This data collection system allows for:

- Accurate and up-to-date representations of features and trails within EDH
- Field evaluation of property ownership boundaries to identify encroachments
- Spatial representation of encroachment locations and the ability to determine problem areas
- Precise mapping of linear, point, and area data
- An ability to attach in-field descriptors to captured spatial information

When completing field surveys TRCA staff assess the condition of the various features being recorded. Table 4.1 outlines how the conditions of the various features are evaluated.

TABLE 4.1 CONDITION CATEGORIES FOR FEATURES IN TRCA DATA DICTIONARY				
	Good	Fair	Poor	Needs Repair
<b>Fencing</b>	<ul style="list-style-type: none"> <li>• Upright Undamaged</li> <li>• Solid posts</li> </ul>	<ul style="list-style-type: none"> <li>• Upright Some damage</li> <li>• Posts compromised</li> <li>• Sections may lean</li> </ul>	<ul style="list-style-type: none"> <li>• Failing/falling down</li> <li>• Badly damaged</li> <li>• Posts are broken/missing</li> </ul>	N/A
<b>Structural Encroachment</b>	<ul style="list-style-type: none"> <li>• Appears new</li> <li>• Undamaged</li> </ul>	<ul style="list-style-type: none"> <li>• Established</li> <li>• May be damaged</li> </ul>	<ul style="list-style-type: none"> <li>• Possibly old</li> <li>• Damaged</li> <li>• Disintegrating</li> </ul>	N/A
<b>Gates</b>	<ul style="list-style-type: none"> <li>• Undamaged</li> <li>• Secure</li> </ul>	<ul style="list-style-type: none"> <li>• Fairly secure</li> </ul>	<ul style="list-style-type: none"> <li>• Damaged</li> <li>• Insecure</li> </ul>	<ul style="list-style-type: none"> <li>• Repairs necessary to increase security</li> </ul>

A boundary audit was completed for the EDH properties in October and November 2009 and in October 2012. Because of variation in the timing and completeness of data collection, there may be inconsistencies between boundary audit and trail inventory data. Other features may exist on the properties that were not identified during this survey. If new features are discovered they will be evaluated under the same process and the necessary actions taken. Sections 4.3, 4.4, and 4.5 summarize the results of this audit.

## 4.3 ACCESS AND GATES

### 4.3.1 Access and Gates at Brock Tract

The Brock Tract contains many unauthorized access points through rundown fencing or where fencing has been purposely removed. Most unauthorized access points were found along shared boundaries with neighbouring properties. There are two authorized public access points along 6<sup>th</sup> Concession Road, and two authorized private access points from private property along the southern boundary.

There are nine gates along the edge of the property, with conditions ranging from “good” to “poor.” Eight of these gates appear to be shared with neighbouring properties, but at the time of writing it is unknown whether these are actively in use.

The charts below summarize the type, status and location of access points and gates along the perimeter of the Brock Tract.

**TABLE 4.2: BROCK TRACT ACCESS AND GATES**

Location	Type	Status	Access From	Gate	Locked	Status of Gate
<b>Northern Boundary</b>	Small (<1m)	Unauthorized (Hole in fence)	Private Property	No	N/A	N/A
<b>Mid-Boundary</b>	Small (<1m) X9	Unauthorized (Hole in fence)	Private Property	No	N/A	N/A
	Medium (1-3m)	Unauthorized	Private Property	Yes	Yes	Fair
	Medium (1-3m)	Unauthorized	Private Property	Single Chain-link	Yes	Poor
<b>6<sup>th</sup> Concession</b>	Large (>5m)	Authorized	6th Concession	Yes	No	Fair
	Medium (1-3m) X2	Authorized	6th Concession	No	N/A	N/A
	Small (<1m) X3	Unauthorized (Hole in Fence)	6th Concession	No	N/A	N/A
<b>Southern Boundary</b>	Small (>1m) X3	Unauthorized (Hole in Fence)	Private Property	No	N/A	N/A
	Large (>5m) X2	Authorized	Private Property	Yes	Yes	Good
	Large (>5m)	Authorized	Private Property	Yes	No	Good
<b>Western Boundary</b>	Small (<1m) X2	Unauthorized (Hole in Fence)	Private Property	No	N/A	N/A
	Large (>5m) X3	Unknown	Private Property	Yes	Yes	Good

### 4.3.2 Access and Gates at Dagmar North

The Dagmar North property includes an authorized access point through the Dagmar Ski Hill operation, and another authorized access point from Lake Ridge Road. These access points are not available for general public use, and instead allow TRCA and Dagmar Ski Hill staff to access the trails for maintenance and other activities. Unauthorized access points do exist along the property boundary. These are located near neighbouring properties and indicate that some unauthorized activity and use is occurring.

The charts below summarize the type, status and location of access points and gates along the perimeter of Dagmar North.

**TABLE 4.3: DAGMAR NORTH ACCESS AND GATES**

Location	Type	Status	Access From	Gate	Locked	Status of Gate
Lake Ridge Road	Large (>5m)	Authorized	Lake Ridge Road	Yes	Yes	Good
	Small (<1m) X2	Unauthorized (Hole in fence)	Private Property	No	N/A	N/A
Southern Boundary	Large (>5m)	Authorized	Dagmar Ski Hill	No	N/A	N/A
Northern Boundary	Large (>5m)	Unauthorized	Private Property	No	N/A	N/A
	Small (<1m) X4	Unauthorized	Unauthorized	No	N/A	N/A

### 4.3.3 Access and Gates at Dagmar South

The Dagmar South property includes one authorized access and one unauthorized access. The authorized access is located along the shared border of the Dagmar Ski Hill property and the unauthorized access is a gate along the southern boundary leading from private property.

The chart below summarizes the type, status and location of access points along the perimeter of Dagmar South.

**TABLE 4.4: DAGMAR SOUTH ACCESS AND GATES**

Location	Type	Status	Access From	Gate	Locked	Status of Gate
Southern Boundary	Large (>5m)	Authorized	Private Driveway	Yes	Open	Needs Repair
Eastern Boundary	Large (>5m)	Unauthorized	Dagmar Ski Hill	No	N/A	N/A

### 4.3.4 Access and Gates at Glen Major Resource Management Tract

The boundary audit of the Glen Major property only assessed the southernmost section of the property (Osler Property) near the CN railway. Within this area many authorized and unauthorized access points were identified. The unauthorized access points were a result of damaged fencing and/or fencing being purposely removed. Many of these instances exist along portions of the boundary shared with neighbouring private properties.

The charts below summarize the type, status and location of access points and gates along the perimeter of Glen Major.

**TABLE 4.5 ACCESS AND GATES GLEN MAJOR RESOURCE MANAGEMENT TRACT**

Location	Type	Status	Access From	Gates	Locked	Status of Gate
<b>7<sup>th</sup> Concession (Eastern Boundary)</b>	(<1m) X3	Unauthorized	7 <sup>th</sup> Concession	No	N/A	N/A
	Large (>5m)	Authorized	Private Driveway	No	N/A	N/A
	Large (>5m)	Authorized	7 <sup>th</sup> Concession	No	N/A	N/A
	Large (>5m) X2	Authorized	Private Residence	Yes	No	Good
<b>Southern Boundary</b>	Small (<1m)	Unauthorized	CN Railway	No	N/A	N/A
	Medium (1-3m)	Authorized	Side Trail	No	N/A	N/A
<b>Western Boundary</b>	Large (>5m) X2	Authorized	CN Railway	Yes	No	Good
	Small (<1m) X5	Unauthorized	Private Property	No	N/A	N/A
	Large (>5m)	Authorized	6 <sup>th</sup> Concession	No	N/A	N/A
	Large (>5m)	Authorized	6 <sup>th</sup> Concession	Yes	Yes	Good
<b>Northern Boundary</b>	Small (<1m) X4	Unauthorized	Private Property	No	N/A	N/A
	Medium (1-3m) X5	Unauthorized	Private Property	No	N/A	N/A
	Large (>5m)	Unauthorized	Private Property	No	N/A	N/A



Glen Major, 2016

### 4.3.5 Access and Gates at North Walker Woods

North Walker Woods includes three authorized gate access points along the southern property boundary and one authorized step-over stile access point (with a gate) along 6<sup>th</sup> Concession Road. The three gates located along the southern boundary are shared with neighbouring residents. There are also unauthorized access points along the southern boundary where fencing has either been purposely removed or no longer exists.

The charts below summarize the type, status and location of access points and gates along the perimeter of North Walker Woods.



North Walker Woods Gate, 2017

**TABLE 4.6 NORTH WALKER WOODS ACCESS AND GATES**

Location	Type	Status	Access From	Gate	Locked	Status of Gate
Eastern Boundary	Large (>5m)	Authorized	6 <sup>th</sup> Concession	Yes	Yes	Good
Southern Boundary	Small (<1m) X2	Unauthorized Hole in fence	Private Property	No	N/A	N/A
	Large (>5m) X3	Authorized	Private Property	Yes	Yes	Good

### 4.3.6 Access and Gates at North Walker Woods (Uxbridge Lands)

The Uxbridge Lands contain four authorized access points, two of which are gates. One gate is located along Brock Road, while the other is found along the northern boundary shared with a neighbouring property.

The chart below summarizes the location, type and status of access points and gates along the perimeter of the Uxbridge Lands.

**TABLE 4.10 THE UXBRIDGE LANDS ACCESS AND GATES**

Location	Type	Status	Access From	Gate	Locked	Status of Gate
Eastern Boundary	Medium (1-3m)	Authorized	North Walker Woods	No	N/A	N/A
Western Boundary	Small (1m)	Authorized	Oak Ridges Moraine Trail Access	No	N/A	N/A
	Large (>5m)	Authorized	Brock Road	Yes	Yes	Good
Northern Boundary	Large (>5m)	Authorized	Neighbouring Property	Yes	Yes	Good

### 4.3.7 Access and Gates at Walker Woods

Walker Woods includes only two unauthorized access points, neither of which are from private residences. Most of the authorized access points are located along the northern boundary where trails from a neighbouring property intersect with the trails at Walker Woods.

The charts below summarize the type, location and status of access points and gates along the perimeter of Walker Woods.

**TABLE 4.7 WALKER WOODS ACCESS AND GATES**

Location	Type	Status	Access From	Gate	Locked	Status of Gate
Eastern Boundary	Large (>5m)	Authorized	7 <sup>th</sup> Concession	No	N/A	N/A
Northern Boundary	Medium (1-3m) X4	Authorized	Side Trail	No	N/A	N/A
	Small (1m)	Authorized	Side Trail	No	N/A	N/A
Western Boundary	Small (1m)	Unauthorized	6 <sup>th</sup> Concession	No	N/A	N/A
	Large (>5m)	Authorized	Private Residence	No	N/A	N/A
Internal	Medium (1-3m) X3	Authorized	Conservation Easements	No	N/A	N/A
Southern Boundary	Large (>5m)	Authorized	Glen Major	Yes	Yes	Good
	Medium (1-3m)	Unauthorized	Glen Major	No	N/A	N/A

### 4.3.8 Access and Gates at Walker Woods Parcel

The Walker Woods Parcel contains only one unauthorized access point, despite a lack of fencing.

The chart below summarizes the location, type and status of access points and gates along the perimeter of the Walker Woods Parcel.

**TABLE 4.8 WALKER WOODS PARCEL ACCESS AND GATES**

Location	Type	Status	Access From	Gate	Locked	Status of Gate
Northern Boundary	Medium (1-3m)	Unauthorized	Private Residence	No	N/A	N/A

### 4.3.9 Access and Gates at Wilder Forest and Wildlife Preserve

Wilder Forest and Wildlife Preserve contains three authorized access points from 6<sup>th</sup> Concession Road and two authorized access points from neighbouring properties. No unauthorized access points were recorded.

The chart below summarizes the location, type and status of access points and gates along the perimeter of the Wilder Forest and Wildlife Preserve.

**TABLE 4.9 THE WILDER FOREST AND WILDLIFE PRESERVE ACCESS AND GATES**

Location	Type	Status	Access From	Gate	Locked	Status of Gate
Eastern Boundary	Large (>5m)	Authorized	6 <sup>th</sup> Concession	Yes	Yes	Good
	Large (>5m)	Authorized	6 <sup>th</sup> Concession	Yes	Yes	Needs Repair
	Small (1m)	Authorized	6 <sup>th</sup> Concession	No	N/A	N/A
Western Boundary	Large (>5m)	Authorized	Neighbouring property	Yes	Yes	Good
Northern Boundary	Large (>5m)	Authorized	Neighbouring property	No	N/A	N/A

### 4.3.10 Access and Gates at Skyloft

The Skyloft property contains very little fencing and as a result there are many access points along the periphery of the property. There are a total of six access points and two of these are authorized trail linkages from neighbouring properties. The main official access point for the Skyloft property is at the end of Buzek Lane to the north of Chalk Lake Road.

The chart below summarizes the location, type and status of access points and gates along the perimeter of the Skyloft property.

**TABLE 4.11 THE SKYLOFT PROPERTY ACCESS AND GATES**

Location	Type	Status	Access From	Gate	Locked	Status of Gate
Eastern Boundary	Medium (1-3m)	Authorized	Neighbouring property	No	N/A	N/A
	Medium (1-3)	Authorized	Neighbouring property	No	N/A	N/A
Western Boundary	Large (>5m)	Unauthorized	Neighbouring Property	No	N/A	N/A
Northern Boundary	Medium (1-3m) X2	Unauthorized	Neighbouring property	No	N/A	N/A
Southern Boundary	Medium (1-3)	Authorized	Buzek Lane	No	N/A	N/A



### 4.3.11 Access and Gates at Pleasure Valley

The Pleasure Valley property contains numerous small unauthorized access points along all borders. These access points are a result of neighbouring trails entering the property.

The chart below summarizes the location, type and status of access points and gates along the perimeter of the Pleasure Valley property.

TABLE 4.12 PLEASURE VALLEY ACCESS AND GATES						
Location	Type	Status	Access From	Gate	Locked	Status of Gate
Eastern Boundary	Small (1m)	Unauthorized	Neighbouring Property	No	N/A	N/A
Northern Boundary	Small (1m) X3	Unauthorized	Neighbouring Property	No	N/A	N/A
Southern Boundary	Small (1m) X9	Unauthorized	Neighbouring Property	No	N/A	N/A

### 4.3.12 Gate Prioritization

The TRCA core series of locks are to be used when securing all gates within EDH. The Site Securement and Protection Plan recommends the following actions be taken to properly secure the identified access points along EDH property boundaries:

1. Remove previous landowner’s lock and install TRCA approved locks at all identified gates.
2. Evaluate the need to keep individual gates after the completion of the EDH Management Plan Update.
3. Remove gates determined to be unnecessary and fence accordingly.

### 4.3.13 Unauthorized Access Prioritization

The following actions will be taken to evaluate and resolve the identified unauthorized access points:

- Post mapping at each authorized access point identifying all the authorized access points.
- Repair fencing where unauthorized access is occurring along the EDH property boundaries.
- Evaluate unauthorized access points for possible incorporation into the EDH trail system.

## 4.4 FENCING

### 4.4.1 Fencing at Brock Tract

The majority of the Brock Tract has existing farm fence around the circumference of the property. The condition of the fence ranges from “good” to “needs repair.” Wood and chain link fencing can be found along the western boundary. These areas are sparse but in good condition.

The charts below summarize the type, condition and length of each fencing type along the perimeter of the Brock Tract.

TABLE 4.13 BROCK TRACT FENCING					
Location	Type	Condition	Length (metres)	Unauthorized Access	Recommendations
Northern Boundary	Farm	Good	57	Yes	Repair and install fence where required
	Farm	Fair	680	Yes	
Mid-Boundary	Farm	Good	715	Yes	Repair and install fence where required
		Fair	957	Yes	
		Needs Repair	189	Yes	
Eastern Boundary	Farm	Good	535	Yes	Repair and install fence where required
		Fair	111	Yes	
		Poor	92	Yes	
Southern Boundary	Farm	Good	1087	Yes	Repair and install fence where required
		Fair	83	Yes	
		Poor	212	Yes	
		Needs Repair	300	Yes	
Western Boundary	Farm	Good	872	Yes	Repair and install fence where required
	Farm	Needs Repair	62	Yes	
	Wood	Good	12	Yes	
	Chainlink	Good	85	Yes	
<b>TOTAL FENCING: 6,049 METRES</b>					



Fencing in Disrepair at Brock Tract, 2012

#### 4.4.2 Fencing at Dagmar North

The majority of the Dagmar North property boundary has existing farm fence. The fence ranges from “good” to “needs repair.” There is a small section of the northern boundary that contains no fence, and there is evidence that unauthorized access is occurring along this section. Similarly, there is a 577 m section of the western boundary that contains no fencing, although there was no evidence of unauthorized access in this section.

The charts below summarize the type, condition and length of each fencing type along the perimeter of the Dagmar North property.

**TABLE 4.14 DAGMAR NORTH FENCING**

Location	Type	Condition	Length (metres)	Unauthorized Access	Recommendations
Lake Ridge Road (Eastern Boundary)	Farm	Good	1032	No	Continue to monitor
Southern Boundary	Farm	Poor	367	Yes	Install and repair fencing where necessary
		Needs Repair	1093	Yes	
Western Boundary	Farm	Good	278	Yes	Install and repair fencing where necessary
		Needs Repair	877	Yes	
Northern Boundary	Farm	Good	134	Yes	Install and repair fencing where necessary
		Needs Repair	321	Yes	

**TOTAL FENCING: 4,102 METRES**

### 4.4.3 Fencing at Dagmar South

The Dagmar South property has farm fencing surrounding the majority of the property. The condition of the fence ranges from “good” to “needs repair.” There are a few sections that are unfenced. Discontinuous fencing creates the potential for unauthorized access along each side of the property.

The chart below summarizes the type, condition and length of each type of fencing along the perimeter of the Dagmar South property.

TABLE 4.15 DAGMAR SOUTH FENCING					
Location	Type	Condition	Length (metres)	Unauthorized Access	Recommendations
Southern Boundary	Farm	Good	111	Yes	Install and repair fencing where necessary
	Farm	Needs Repair	58	Yes	
	Farm	Fair	37	Yes	
Northern Boundary	Farm	Fair	375	No	Install and repair fencing where necessary
Western Boundary (7 <sup>th</sup> Concession)	Farm	Good	60	No	Install and repair fence where necessary
<b>TOTAL FENCING: 641 METRES</b>					



Glen Major, 2004

#### 4.4.4 Fencing at Glen Major Resource Management Tract

The boundary audit of the Glen Major property only assessed the southernmost section of the property (Osler Property) near the CN railway. Most of this boundary is covered by farm fencing. The condition of this fencing ranges from “good” to “needs repair.”

The chart below summarizes the type, condition and length of each fencing type along the perimeter of Glen Major (Osler Tract).

TABLE 4.16 GLEN MAJOR RESOURCE MANAGEMENT TRACT FENCING					
Location	Type	Condition	Length (metres)	Unauthorized Access	Recommendations
7 <sup>th</sup> Concession (Eastern Boundary)	Farm	Good	186	Yes	Install and repair fencing where necessary
	Farm	Fair	654	Yes	
		Poor	102	Yes	
		Needs Repair	363	Yes	
	Wood	Fair	31	No	
Southern Boundary	Farm	Fair	1463	Yes	Install and repair fencing where necessary
Western Boundary	Farm	Good	2282	Yes	Install and repair fencing where necessary
		Fair	884	Yes	
		Poor	130	Yes	
Northern Boundary	Farm	Good	539	Yes	Install and repair fencing where necessary
		Fair	200	Yes	
		Poor	136	Yes	
		Needs Repair	382	Yes	
<b>TOTAL FENCING: 7,352 METRES</b>					

#### 4.4.5 Fencing at North Walker Woods

The entirety of the North Walker Woods property boundary is covered by farm fencing. The condition of this fence ranges from “good” to “needs repair.”

The chart below summarizes the type, condition and length of each fencing type along the perimeter of North Walker Woods.

TABLE 4.17 NORTH WALKER WOODS FENCING					
Location	Type	Condition	Length (metres)	Unauthorized Access	Recommendations
Eastern Boundary	Farm	Good	1,169	No	Continue to Monitor
Southern Boundary	Farm	Good	1096	Yes	Install and repair fencing where required
Western Boundary	Farm	Good	1166	No	Continue to Monitor and repair fencing where necessary
	Farm	Needs Repair	53	No	
Northern Boundary	Farm	Good	1067	No	Continue to monitor
<b>TOTAL FENCING: 4,551 METRES</b>					

#### 4.4.6 Fencing at North Walker Woods (Uxbridge Lands)

As an extension of the North Walker Woods property, the Uxbridge Lands share a boundary fence line. The eastern fence line of the Uxbridge Lands is the western boundary of North Walker Woods and contains 711 m of fencing.

The chart below summarizes the type, condition and length of each type of fencing along the perimeter of the Uxbridge Lands.



**TABLE 4.22 UXBRIDGE LANDS FENCING**

Location	Type	Condition	Length (metres)	Unauthorized Access	Recommendations
Northern Boundary	Farm	Good	1023	No	Continue to monitor
Southern Boundary	Farm	Fair	337	No	Continue to monitor
Western Boundary	Farm	Fair	173	No	Continue to monitor
Eastern Boundary	Farm	Fair	711	No	Continue to monitor

**TOTAL FENCING: 2,244 METRES**

#### 4.4.7 Fencing at Walker Woods

The entire boundary of the Walker Woods property is covered by existing farm fence. The condition of this fence ranges from “good” to “needs repair”. There are small sections that are unfenced, but these represent the unauthorized access points.

The chart below summarizes the type, condition and length of each type of fencing along the perimeter of Walker Woods.

**TABLE 4.18 WALKER WOODS FENCING**

Location	Type	Condition	Length (metres)	Unauthorized Access	Recommendations
Northern Boundary	Farm	Fair	2073	No	Continue to monitor
Eastern Boundary	Farm	Good	608	No	Continue to monitor
	Farm	Fair	85	No	
Internal	Farm	Good	681	No	Continue to monitor
		Fair	87	No	
		Poor	41	No	
		Needs Repair	229	No	
Southern Boundary	Farm	Fair	918	No	Continue to monitor
Eastern Boundary (6 <sup>th</sup> Concession)	Farm	Good	1398	No	Install and repair fencing where necessary
	Farm	Fair	158	Yes	

**TOTAL FENCING: 6,278 METRES**

#### 4.4.8 Fencing at Walker Woods Parcel

There is a small landholding on the eastern side of 6<sup>th</sup> Concession Road that is part of Walker Woods. This property is bordered on both sides by residential properties and is partially fenced with farm fencing.

TABLE 4.19 NORTH WALKER WOODS (PARCEL) FENCING					
Location	Type	Condition	Length (metres)	Unauthorized Access	Recommendations
Northern Boundary	Farm	Good	82	Yes	Install and repair fencing where required
		Fair	397	Yes	
Southern Boundary	Farm	Fair	357	No	Continue to monitor
<b>TOTAL FENCING: 836 METRES</b>					

#### 4.4.9 Fencing at Wilder Forest and Wildlife Preserve

The Wilder Forest and Wildlife Preserve has farm fence surrounding the entirety of the property boundary. The condition of the fence ranges from “good” to “fair.”

The chart below summarizes the type, condition and length of each type of fencing along the perimeter of the Wilder property.

TABLE 4.20 WILDER FOREST AND WILDLIFE PRESERVE FENCING					
Location	Type	Condition	Length (metres)	Unauthorized Access	Recommendations
Northern Boundary	Farm	Fair	153	No	Continue to monitor
Southern Boundary	Farm	Fair	323	No	Continue to monitor
Western Boundary	Farm	Good	1083	No	Continue to monitor
Eastern Boundary (6 <sup>th</sup> Concession)	Farm	Fair	496	Yes	Install and repair fencing where required
<b>TOTAL FENCING: 2,053 METRES</b>					



Wilder Forest and Wildlife Area, 2012

#### 4.4.10 Fencing at the Purcell Property

The Purcell property has farm fencing that surrounding the entirety of the property boundary. The condition of the fence ranges from “good” to “fair.” Due to the Purcell property’s location near a railway line and bordering farmers’ fields, unauthorized access is difficult and existing fencing appears to be relatively new.

The chart below summarizes the type, condition and length of each type of fencing along the perimeter of the Purcell property.

TABLE 4.21 PURCELL PROPERTY FENCING					
Location	Type	Condition	Length (metres)	Unauthorized Access	Recommendations
Northern Boundary	Farm	Good	241	No	Continue to monitor
Southern Boundary	Farm	Good	655	No	Continue to monitor
		Fair	222	No	Continue to monitor
Western Boundary	Farm	Good	84	No	Continue to monitor
Eastern Boundary	Farm	Good	648	No	Continue to monitor
<b>TOTAL FENCING: 1,850 METRES</b>					

#### 4.4.11 Fencing at Skyloft

The Skyloft property contains very little fencing, although there are some sections of farm fencing in “fair” condition along the northern boundary. The eastern, western and southern boundaries are completely unfenced.

The chart below summarizes the type, condition and length of each type of fencing along the perimeter of the TRCA Skyloft property.

TABLE 4.23 SKYLOFT FENCING					
Location	Type	Condition	Length (metres)	Unauthorized Access	Recommendations
Northern Boundary	Farm	Fair	709	Yes	Install and repair fencing where required
<b>TOTAL FENCING: 709 METRES</b>					

#### 4.4.12 Fencing at Pleasure Valley

The Pleasure Valley property has very little fencing. Where fencing does exist, it is in “good” to “poor” condition.

The chart below summarizes the type, condition and length of each type of fencing along the perimeter of the Pleasure Valley property.

TABLE 4.24 PLEASURE VALLEY FENCING AND ACCESS					
Location	Type	Condition	Length (metres)	Unauthorized Access	Recommendations
Northern Boundary	Farm	Good	153	Yes	Install and repair fencing where required
	Farm	Poor	341	Yes	
Eastern Boundary	Farm	Fair	391	Yes	Install and repair fencing where required
<b>TOTAL FENCING: 885 METRES</b>					



Horse in Pleasure Valley, 2012

### 4.4.13 Fencing Totals in the East Duffins Headwaters Properties

The following chart summarizes the total length and condition of fencing in the entire EDH complex.

TABLE 4.25: TOTAL FENCING IN EDH	
Condition	Length (metres)
Good	14,544 m
Fair	13,402 m
Poor	1,421 m
Needs Repair	3,243 m

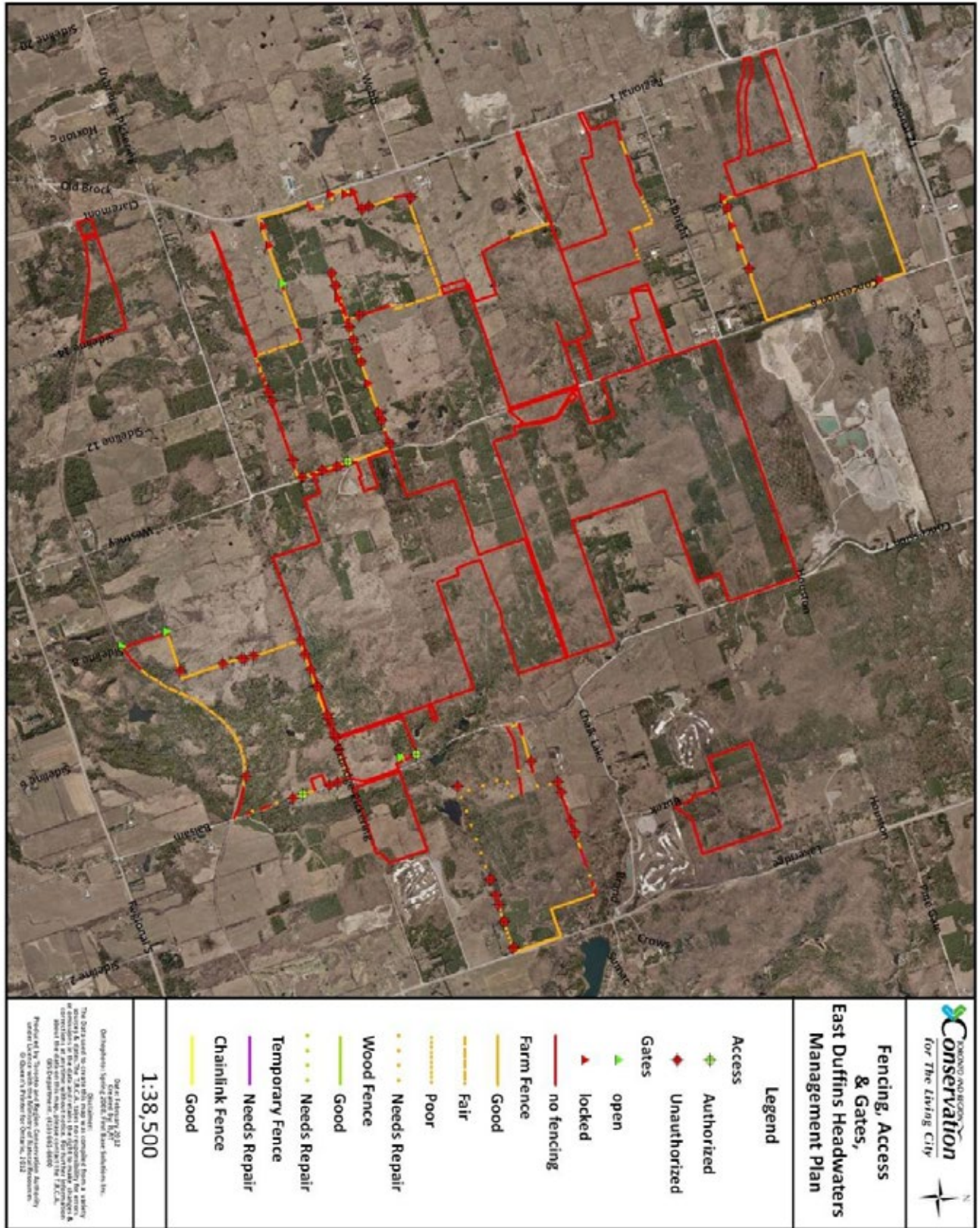
### 4.4.14 Fencing Priority

To prioritize the installation, upgrading and removal of fencing, the Site Securement and Protection Plan recommends the following criteria:

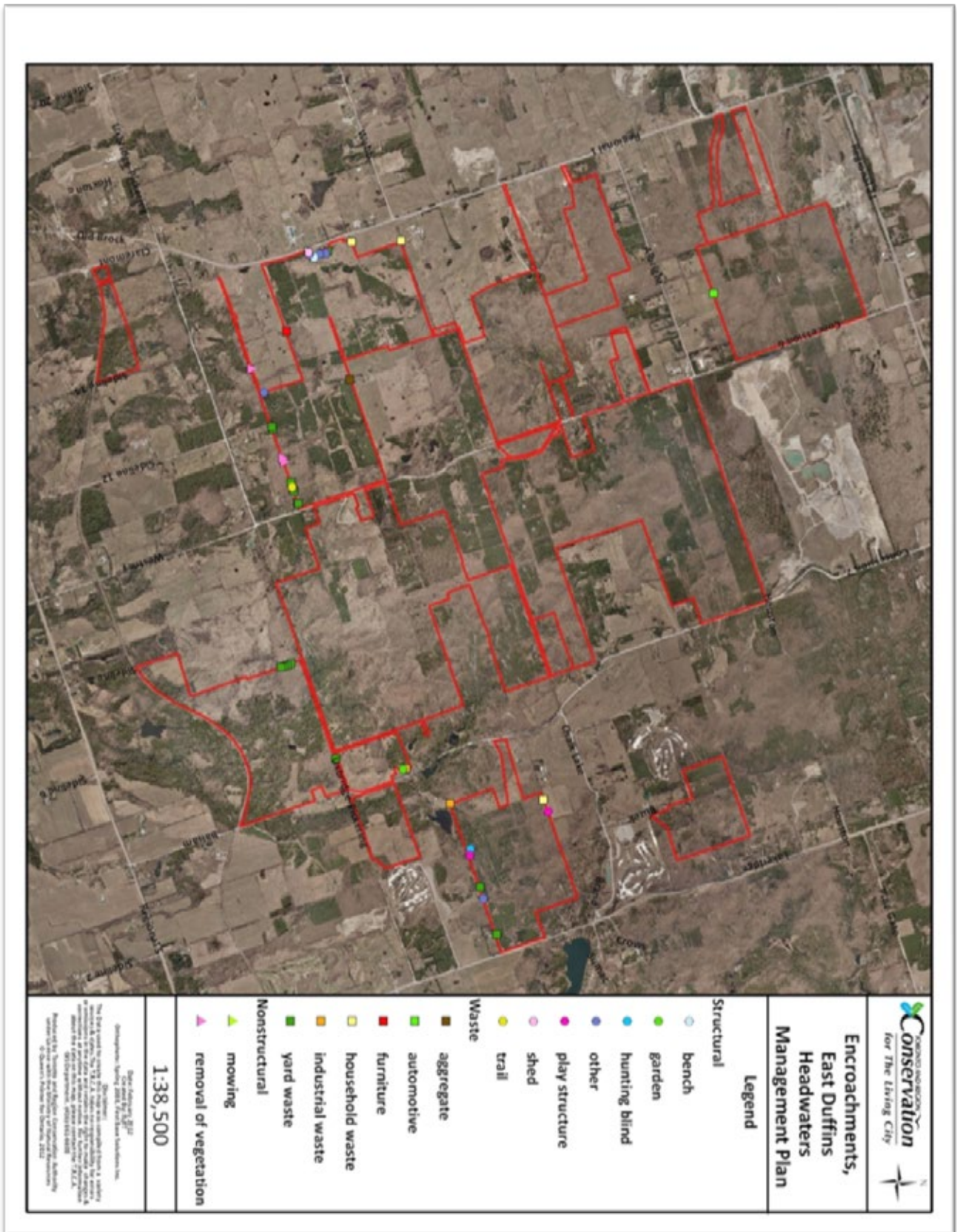
- Install or repair boundary fencing along property lines where a known or high risk of encroachment exists.
- Install signage identifying TRCA as the landowner and/or land manager and provide contact information.
- Install boundary fencing along property edges that abut public roads.
- Install boundary fencing along property lines that abut private property.
- Repair and/or replace existing fencing that is currently in poor condition.
- Remove fencing between adjacent TRCA owned parcels of land.



Glen Major, 2003



Map 4.1 Fencing, Access Points and Gates in EDH



Map 4.2 Encroachment Location and Distribution in EDH

## 4.5 ENCROACHMENTS AT EDH

Encroachments are classified as an unauthorized use of TRCA property. Encroachments can include dumping yard waste (grass clippings, leaves, plant material, compost, etc.), dumping household waste (general garbage), dumping aggregate waste (landscaping materials, gravel, etc.), creating any type of garden (vegetable, flower, etc.) and storing any type of unauthorized materials on TRCA lands (sheds, compost bins, play structures, etc.). The following tables summarize the number and type of encroachments at EDH properties.



Backyard Encroachment in EDH, 2011

### 4.5.1 Encroachments at Brock Tract

**TABLE 4.26 WASTE ENCROACHMENTS**

Encroachment	#
Aggregate waste	2
Furniture	3
Household waste	6
Yard waste	9
<b>Total</b>	<b>18</b>

**TABLE 4.27 STRUCTURAL ENCROACHMENTS**

Encroachment	#
Shed	2
Bench	2
Play structure	2
Trail	1
Fire pit	1
Trailer	1
Gazebo	1
Tree stand	1
<b>Total</b>	<b>11</b>

**TABLE 4.28 NON-STRUCTURAL ENCROACHMENTS**

Encroachment	#
Removal of vegetation	4
Mowing	4
<b>Total</b>	<b>8</b>

#### 4.5.2 Encroachments at Dagmar Properties (North and South)

TABLE 4.29 WASTE ENCROACHMENTS	
Encroachment	#
Industrial waste	1
Household waste	1
Yard waste	1
<b>Total</b>	<b>3</b>

TABLE 4.30 STRUCTURAL ENCROACHMENTS	
Encroachment	#
Hunting blind	1
Play structure	2
<b>Total</b>	<b>3</b>

#### 4.5.3 Encroachments at Walker Woods

Boundary assessments did not reveal any encroachments on the Walker Woods property. However, a large farm waste site has been identified in the heart of the Walker Woods property, and this site will be a high priority site for resolution and restoration.



Walker Woods Farm Waste Site, 2011

#### 4.5.4 Encroachments at Glen Major Resource Management Tract

TABLE 4.31 WASTE ENCROACHMENTS	
Encroachment	#
Yard Waste	5
<b>Total</b>	<b>5</b>

#### 4.5.5 Encroachments at North Walker Woods

TABLE 4.32 WASTE ENCROACHMENTS	
Encroachment	#
Automotive Waste	5
<b>Total</b>	<b>5</b>

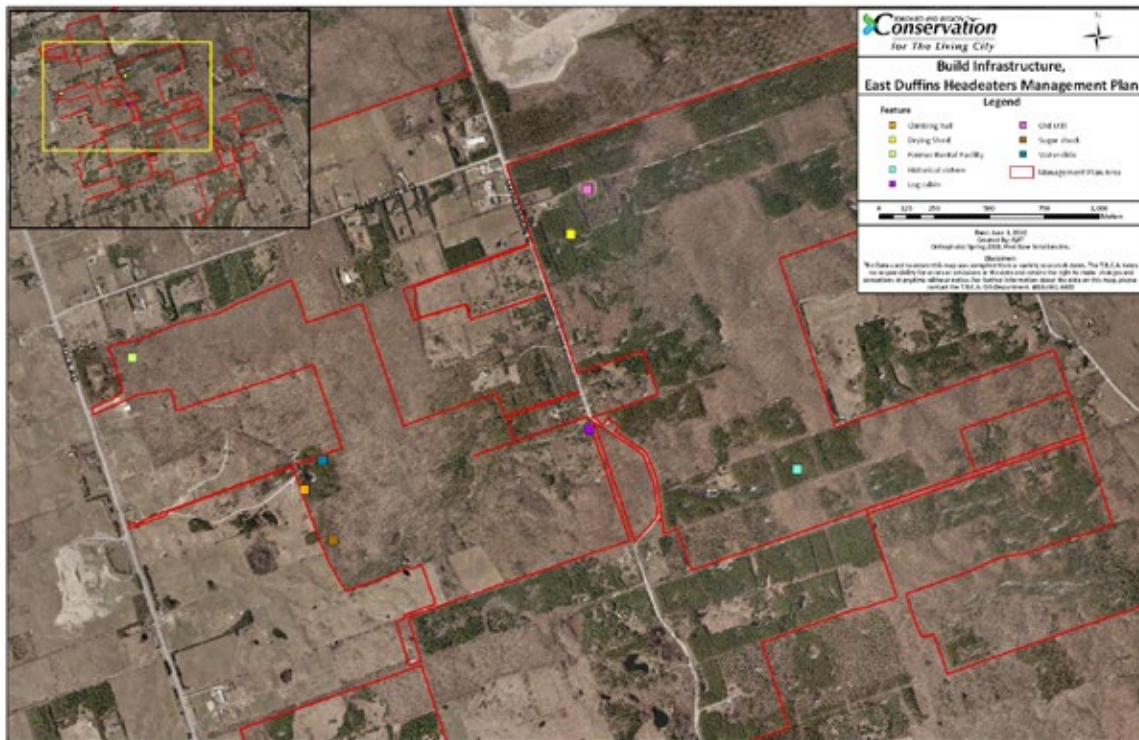
#### 4.5.6 Encroachment Resolution

The Site Securement and Protection Plan recommends the following actions be taken to evaluate and address encroachments at EDH:

- All waste encroachments located on TRCA managed lands should be removed. Where required, restoration efforts may be implemented to improve the site.
- Neighbouring residents will be informed of any infractions and sent a copy of the TRCA “Natural Neighbours” information sheet.
- Where infractions persist, involve enforcement and/or police to resolve the issue.

## 4.6 BUILT STRUCTURES

Table 4.33 highlights built features that have been identified in the study area. This list does not include TRCA residential leased buildings. Some buildings will be considered for future use while others will be decommissioned.



Map 4.3 Built Structures in EDH

TABLE 4.33 LOCATION OF BUILT STRUCTURES IN THE EDH STUDY AREA

Feature	Location
Walker sawmill	Walker Woods
Walker drying shed	Walker Woods
TRCA Field Shop	Walker Woods
Historical cistern	Walker Woods
Log cabin	Wilder Forest and Wildlife Preserve
Sugar shack	Wilder Forest and Wildlife Preserve
Former rental facility	Pleasure Valley Lands

In the fall of 2010, preliminary inspections of these EDH buildings were conducted by TRCA maintenance staff. The following table summarizes the recommendations and required upgrades necessary to keep the buildings in a safe and operational condition. At a minimum, the buildings must be made safe and functional for TRCA staff to remain in use. If the structures are to be made available for public use, additional upgrades and repairs may be necessary. The actions listed below are directed primarily towards the former; however, some actions are directed towards making the structures public features.



Pleasure Valley Sugar Shack, 2013

**TABLE 4.34 BUILT INFRASTRUCTURE IN THE EDH STUDY AREA**

Feature	Required Actions
<b>Walker sawmill (Walker Woods)</b>	<ul style="list-style-type: none"> <li>• Conduct building assessment.</li> <li>• Seek out proposals to convert the site into an interpretive feature.</li> </ul>
<b>Walker drying shed (Walker Woods)</b>	<ul style="list-style-type: none"> <li>• Secure existing historical machinery.</li> <li>• Grade granular surface within shed.</li> <li>• Possibly install seating to convert the site into a rest area.</li> </ul>
<b>TRCA Field Shop (2899 6<sup>th</sup> Concession)</b>	<ul style="list-style-type: none"> <li>• Conduct workplace assessment.</li> <li>• Upgrade shop securement hardware, ensure all doors have adequate locks and hardware to prevent unauthorized access</li> </ul>
<b>Historical cistern (Walker Woods)</b>	<ul style="list-style-type: none"> <li>• Block public access and/or drain storage area to eliminate standing water concerns.</li> <li>• Assess for future removal.</li> </ul>
<b>Log cabin (Wilder Forest and Wildlife Area)</b>	<ul style="list-style-type: none"> <li>• Secure site.</li> <li>• Assess for future removal or relocation.</li> </ul>
<b>Sugar shack (Wilder Forest and Wildlife Area)</b>	<ul style="list-style-type: none"> <li>• Remove debris and or other dangerous materials from site.</li> <li>• Block public access from building until the building can be made safe.</li> <li>• Assess for future use as an interpretive feature.</li> </ul>
<b>Former rental facility (Pleasure Valley)</b>	<ul style="list-style-type: none"> <li>• Ensure all doors have adequate locks to prevent access.</li> <li>• Assess for eventual removal.</li> </ul>



Walker Sawmill, 2013

### 4.6.1 Public Use Opportunities

There is a high level of public use within EDH and trail users have expressed interest in some of the built features on these lands. Recognizing this, it may be desirable to pursue appropriate public use opportunities for these structures to enhance user experience. The cultural heritage value offered by these buildings could be highlighted through educational programming. The following table summarizes potential public use opportunities for some of the buildings.

**TABLE 4.35 PUBLIC USE OPPORTUNITIES FOR BUILDINGS\***

Feature	Considered Public Use Opportunities
Walker sawmill (Walker Woods)	Potential interpretive opportunity
Walker drying shed (Walker Woods)	Potential rest area/interpretive opportunity
Historical cistern (Walker Woods)	N/A
Log cabin (Wilder Forest and Wildlife Area)	Potential interpretive opportunity or rental opportunity
Sugar shack (Wilder Forest and Wildlife Area)	Potential rest area/interpretive opportunity
Former rental facility (Pleasure Valley)	N/A

\* Final level of public interaction with built infrastructure will be dependent on the scope of additional upgrades required.

Existing trail infrastructure is inspected by TRCA on a regular basis to ensure proper maintenance and safety, and TRCA endeavours to resolve issues as they arise. The inspection and resolution of maintenance and/or safety issues will continue to be a major part of EDH property management.

## 4.7 SITE SECUREMENT RECOMMENDATIONS

With high levels of public use expected to continue, site securement and boundary protection is a high management priority for the EDH lands. The Site Securement and Protection Plan recommendations outlined below and in Table 4.36 will help to improve fencing, access control, and the management of built features.

### Management Recommendations:

- r37. That all built features within EDH be secured.
- r38. That the Walker Woods farm waste dump be removed and restored accordingly.
- r39. That boundaries where persistent encroachments exist (or boundaries where there is high likelihood of encroachments to exist) be secured, monitored and signed accordingly.
- r40. That all encroachments be prioritized and resolved accordingly.
- r41. That TRCA continue property boundary monitoring to ensure existing encroachments are resolved and new encroachments are identified.

**TABLE 4.36 EDH SITE SECUREMENT SUMMARY**

Priority Level	Public Safety	Environmental Health	Site Securement
<b>High (Immediate resolution)</b>	<ul style="list-style-type: none"> <li>● Block public access and/or drain the historical Walker cistern.</li> <li>● Conduct workplace assessment of TRCA Field Shop.</li> </ul>	<ul style="list-style-type: none"> <li>● Conduct a risk assessment of the Walker historical dump.</li> <li>● Remove all other high priority encroachments.</li> </ul>	<ul style="list-style-type: none"> <li>● Resolve the southwest Brock Tract encroachments.</li> <li>● Fence the northern boundary of the land extension north of Uxbridge-Pickering Townline and east of Brock Rd.</li> </ul>
<b>Medium (Short-term resolution 12- 18 months)</b>		<ul style="list-style-type: none"> <li>● Restore the Walker historical dump.</li> <li>● Remove all medium priority encroachments.</li> </ul>	<ul style="list-style-type: none"> <li>● Install and repair fencing where encroachments exist or there is a high potential for encroachments to occur.</li> </ul>
<b>Low (Long-term resolution 18-36 months)</b>		<ul style="list-style-type: none"> <li>● Resolve all low priority encroachments.</li> </ul>	<ul style="list-style-type: none"> <li>● Install recommended signage along boundary.</li> <li>● Evaluate and address known unauthorized access points.</li> </ul>



## 5.0 TRAIL PLAN

## 5.1 INTRODUCTION

A comprehensive trail inventory and strategy for future trail management is required to ensure that public access within EDH is directed appropriately to protect natural and cultural features from human impacts.

This Trail Plan is a critical part of the EDH Management Plan Update and will set out the future trail network, permitted uses and management practices.

The information presented is intended to guide the development and management of the trail system and associated infrastructure within EDH.

## 5.2 TRAIL PLAN VISION, OBJECTIVES AND MANAGEMENT PRINCIPLES

The following section outlines the vision, objectives and management principles for the development and management of the EDH trail system. These statements are the result of several visioning exercises with the Public Advisory Committee and Tracks Subcommittee. These statements should be interpreted within the context of the overarching vision, goal, and objectives of the EDH Management Plan Update.

The Trail Plan vision is a broad statement articulating the type of trail system this plan seeks to achieve. Objectives are more targeted statements describing strategies to achieve the Trail Plan vision. Principles are statements intended to guide ongoing trail management decisions, and these are supported by specific management recommendations. These statements will shape trail development and management within the EDH properties.

### 5.2.1 Trail Plan Vision

A safe, accessible, enjoyable and educational year-round trail system that promotes and protects the environment as well as the cultural features of EDH. This network will be integrated into the broader trail system located within Uxbridge, Trails Capital of Canada.

### 5.2.2 Trail Plan Objectives

- Develop and manage trails with an “environment first” approach.
- Implement best practices for the construction and management of trails.

- Improve user experience while decreasing user conflict.
- Develop a balance of trail uses that allow all user groups to enjoy the EDH properties.

### 5.2.3 Trail Plan Management Principles

#### 5.2.3.1 Natural & Cultural Heritage Principles

The trail system should allow the public to enjoy the features that make EDH special, while protecting these natural and cultural heritage assets. The following natural and cultural heritage principles should be followed when considering trail management decisions:

- Minimize disturbance to areas of high ecological sensitivity, cultural sensitivity or areas with sensitive landforms.
- Allow for the expansion of the natural heritage system.

#### Management Recommendations:

- r42. The proposed trail system and any future trail development within EDH should be approved by appropriate TRCA staff.
- r43. Avoid locating trails within Nature Reserve Category 1 and Cultural Heritage Preserves.
- r44. Keep trail densities below the threshold of 120 m/ha, whenever possible.
- r45. An area may be exempt from the 120 m/ha threshold if approved by TRCA Ecology staff and if there is an associated reduction of the trail influence area.
- r46. Monitor the natural and cultural heritage impacts of trails and their usage to determine if action is required (i.e., trail closures, re-routing) to protect the environmental integrity of the properties and ensure that the vision, objectives and principles of the Trail Plan are being met.

#### 5.2.3.2 Trail and Recreation Principles

While the chief purpose of the EDH properties is to preserve natural and cultural heritage assets, TRCA recognizes the desire, need and benefit of public access to enjoy these features. Public use should be managed in a balanced, safe and sustainable fashion. The following trail and recreation principles should be followed when considering trail management decisions:

- Encourage users to enjoy the natural and cultural heritage features of EDH through low impact trail use.
- Provide an inclusive range of trail difficulty including opportunities for beginner to

intermediate levels of challenge and classify the trails accordingly.

- Develop a balance of low intensity trail activities to accommodate different user groups.

### Management Recommendations:

- r47. Allow for low impact trail uses such as hiking, cycling, horseback riding, snow shoeing, cross-country skiing, wildlife viewing and on-leash dog walking within permitted trail corridors only.
- r48. Restrict all motor vehicle access from trails, except for maintenance purposes by approved parties.
- r49. Construct all future trails or re-routes to accommodate multi-use trail experiences, unless in areas designated as a “preferred use area” or “preferred use trail” (e.g., Dagmar North or a specific interpretive trail).
- r50. Investigate advanced-level trail options for approved locations and designated trail corridors.
- r51. Investigate and develop the Dagmar North and Dagmar South properties as locations for an advanced-level trail system.
- r52. Investigate and classify “Ivy Alley,” “Snakes no Ladders,” “The 3 Switch Backs,” “The Pines,” “The Lady Di Memorial,” “TJ’s Way,” “To the Drops,” and “The Drops” as advanced-level trails.
- r53. Limit public use of the properties and trails to daylight hours, except where the necessary TRCA approvals have been granted.
- r54. Limit recreational events to areas of the properties deemed appropriate and only once the necessary TRCA approvals have been granted.
- r55. Only when a trail cannot be updated in its current condition due to natural heritage, cultural heritage, management zone restrictions or any other design principles outlined in this document will the installation of a new trail be investigated in an alternate location.
- r56. Designate the completed Trail Plan and trail length as the new baseline for approximate trail equilibrium.
- r57. Develop all future trails in a manner that is consistent with the Trail Plan principles as well as all management zones, management objectives and TRCA trail construction guidelines.
- r58. Where it is found that trail relocation is necessary, take every best effort to design the replacement trail in a manner that will replicate the closed trail experience and maintain trail equilibrium.
- r59. Where it is found that trail relocation is necessary, take best efforts to restore the closed trail sections to as natural a condition as possible.



Mountain Biking in EDH, 2013

### 5.2.3.3 Connectivity Principles

The following connectivity principles should be followed when considering trail management decisions:

- Provide a variety of user experiences by offering loop options and various trail lengths and difficulty levels.
- Link destinations, such as viewing areas and interpretive sites, within the trail system.

### Management Recommendations:

- r60. Continue to allow connections between EDH and adjacent or nearby public lands through inter-regional trails such as the Oak Ridges Trail and the Trans Canada Trail.
- r61. Investigate options for connections between all EDH properties.

### 5.2.3.4 Trail System and Maintenance Principles

The following trail system and maintenance principles should be followed when considering trail management decisions:

- Endeavour to ensure that trails provide clear sight lines.
- Remove hazards in the defined trail corridor to the best ability of TRCA staff and volunteers.
- Provide safe road crossings and ingress/egress to access points and parking lots.

### Management Recommendations:

- r62. Keep all trails on publicly owned lands unless an agreement with a private landowner is developed.
- r63. Assign trail difficulty classifications and sign trails accordingly.
- r64. Provide clear and convenient trail access including adequate trail head parking lots and clear wayfinding signs.
- r65. Install signs and/or fencing to prevent trespassing or encroachments by trail users onto private lands.
- r66. Install signs highlighting trail work or re-routes during any trail improvement project.
- r67. Focus trail upgrades on the removal of safety concerns and environmentally degrading conditions.
- r68. Trail construction should emphasize natural surfaces and materials. Only where absolutely necessary and agreed to by TRCA staff and TRCA's public partners will other infrastructure or materials be installed.
- r69. Develop formal agreements with the local municipalities for the management of trails within road allowances.



Hazard Tree in EDH, 2011

### 5.2.3.5 Public Engagement

A key component of management and trail planning for TRCA conservation lands is engaging the public in the decision-making process. Trail planning and development will proceed in consultation with the surrounding community through the EDH Stewardship Committee.

### Management Recommendations:

- r70. Continue to work with community-based partners to establish a trail system that incorporates the input of trail users and ensures appropriate trail design and safety.
- r71. Strive to reduce user conflicts by partnering with user groups through the trail design process and installing educational signage.

## 5.3 EXISTING TRAIL SYSTEM

There is a long history of trail use in EDH for forestry, recreation, and maintenance purposes. For the most part these trails were developed informally by local trail users, often following old property boundaries, service roads or natural breaks in the forest. In some cases, trails were purposefully designed to follow the challenging rolling topography of the Oak Ridges Moraine and showcase this landscape.

In this ad hoc system some of the trails are well suited to their current location but in other cases the routing chosen has created trails that are potentially unsustainable, hazardous or may threaten natural and cultural heritage features.

Trail audits conducted between 2007 and 2011 have revealed 108.7 km of authorized and unauthorized trails in EDH (see Maps 5.1- 5.8).

The trail audits identified 26 sections as issue areas requiring more detailed study or further trail work. These areas are identified on Maps 5.1 – 5.8:

- 20 sections were identified for erosion repair.
- 4 sections were located on fall lines of slopes and should be evaluated for realignment.
- 1 was identified as having poor sight lines and should be evaluated for realignment.
- 2 were identified in consistently wet areas and so should be evaluated for realignment or remediation.

These areas will require detailed site assessment and remediation plans to correct the identified issues.

## 5.4 PROPOSED TRAIL SYSTEM

Maps 5.1 to 5.17 show the future EDH trail system, including the existing trails to be retained and the approximate location of any additional proposed trails. The proposed trail system identifies approximately 14.3 km of existing trail to be closed and restored to a natural state. Approximately 4.4 km of new trail is proposed for new construction.

Trail closures have been identified where the location of trails conflicts with areas of high ecological or cultural sensitivity, existing topography or site securement. Proposed trails are intended to help resolve user conflict issues, reduce overuse of individual trails or provide vital connections between different sections of EDH.

It is important to recognize that the EDH Trail Plan includes trails that cross private lands or lands under TRCA management but owned by others. Wherever this is the case, the identified landowner should be notified and involved in the planning process when new trails are proposed or realigned, or when trails are planned for closure.

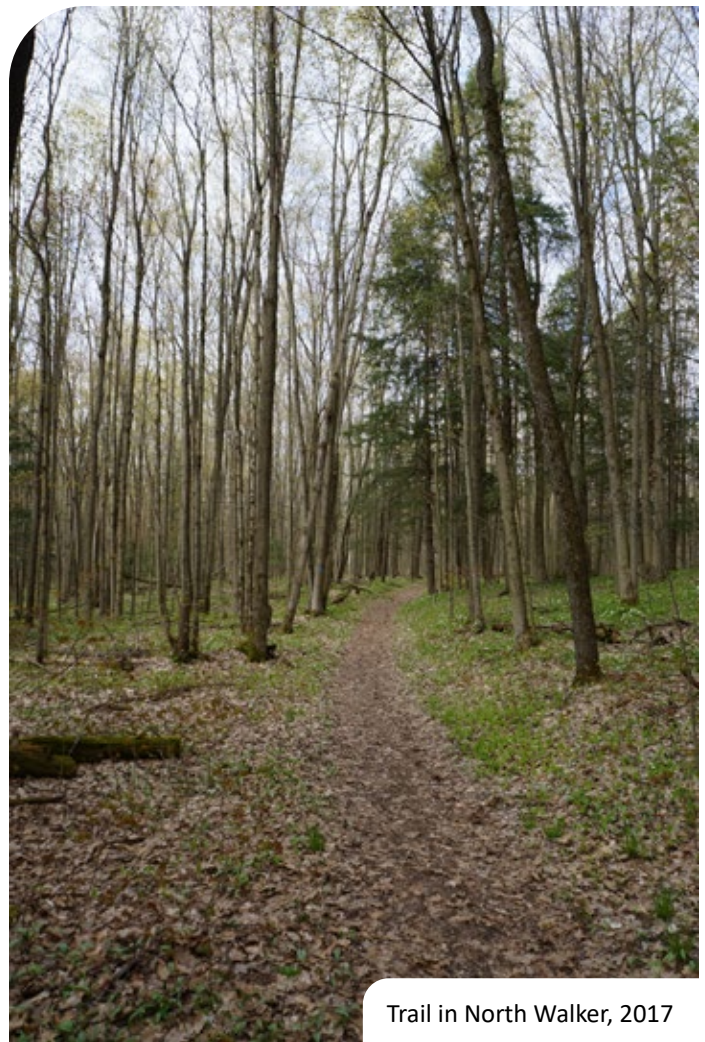
### 5.4.1 North Walker Woods

There are currently approximately 11km of existing trails within the North Walker Woods property. These trails include a major section of the Oak Ridges Trail and the Al Shaw Oak Ridges Trail Side Loop.

Approximately 1 km of trail in North Walker Woods is proposed for closure. These sections are largely in the central area of the property.

Trail access within North Walker Woods is provided via four authorized access points: three from 6<sup>th</sup> Concession Road and one from Brock Road. At present, no official parking is provided on the property, however potential parking areas are being investigated along Brock Road and along 6<sup>th</sup> Concession Road.

Three sections of trail have been identified as erosion problem areas. Further study is required to develop detailed site and implementation plans for these sections.



Trail in North Walker, 2017

### 5.4.2 Wilder Forest and Wildlife Area and Pleasure Valley

The Wilder Forest and Wildlife Area and Pleasure Valley properties are not currently open for public use. The Wilder Forest and Wildlife Area is expected to be open to the public in the spring of 2013, whereas Pleasure Valley is not expected to be open for public use until after the summer of 2025. There are approximately 12.6 km of existing trails within these properties.

Approximately 5 km of trail in the Wilder Forest and Wildlife Area will be closed. The majority of these closures are smaller, less formalized trails that braid through the main trail loop on the property. Several trails on the west side of the property will be closed due to their location near sensitive water features.

Approximately 2 km of trail in the western-most portion of the Wilder Forest and Wildlife Area will be temporarily closed until direct access to the property can be secured from Brock Road. A second trail is proposed to connect

the Wilder Forest and Wildlife Area with the Pleasure Valley property once Pleasure Valley is opened for public access.

Two access points are proposed for the Wilder Forest and Wildlife area. Both access points are located on west side of 6<sup>th</sup> Concession Road, directly opposite Walker Woods.

The Pleasure Valley property has direct access to Brock Road, and includes a series of paved trails which are in very good condition. The property is currently designated as a special study area due to an existing private trail lease set to expire in 2025. When the property becomes open for public access, the existing trail system will be assessed and some trails will be subsequently established as an accessible trail option. Further study is also required to establish which trails in Pleasure Valley are most suitable for permanent incorporation into the EDH trail system and if any should be closed.

Efforts to secure a parking lot location for the Wilder Forest and Wildlife Area have not yet been successful. However, TRCA will continue to pursue a viable trail access from Brock Road to either the Wilder Forest and Wildlife Area or the Pleasure Valley property. The preferred location for a parking lot would be directly adjacent to the future accessible trails on the Pleasure Valley property.

### 5.4.3 Brock Tract

There are approximately 10.5 km of existing trails within the Brock Tract. No trails are currently proposed for closure. There are four existing access points: one via the Brock Tract parking lot and trail head on Brock Road, one from Webb Road, one from the road allowance on Brock Road, and one directly opposite the Glen Major aggregate pit parking lot and trail head on 7<sup>th</sup> Concession Road.

The section of trail leading to the Wilder Forest and Wildlife Area has been identified as an area requiring further work due to its position on the fall line of a slope. A second trail section exhibiting this same issue has been identified directly northwest of the 6<sup>th</sup> Concession Road access. Further study is required to develop a detailed design and implementation plan to address these two areas.

### 5.4.4 Walker Woods

Walker Woods has the largest property-specific trail network within EDH with approximately 26.5 km of existing trails. 2 km of these trails are proposed for closure.

The northern-most portion of the property includes

the main Oak Ridges Trail and two Oak Ridges Trail Side Loops (West Walker and East Walker). The Trans Canada Trail enters the property through the East Walker Woods parking lot, leading south through the centre of the property to the junction between Walker Woods and Glen Major.

There are seven trail access points into the property. Two of these access points are located at parking lots - one is located at the West Walker Woods parking lot along 6<sup>th</sup> Concession Road south of Albright Road, and another is located at the East Walker Woods parking lot (Towers) along 7<sup>th</sup> Concession Road just opposite the intersection of Hewston Road. In total there are four trail access points on the 6<sup>th</sup> Concession Road, and three on 7<sup>th</sup> Concession Road.

Nine areas have been identified as requiring additional work to resolve erosion and fall line issues. Further study is required to develop a detailed design and implementation plan to address these issues.



Trail in Walker Woods, 2013

### 5.4.5 Glen Major Resource Management Tract

Glen Major has the second largest collection of trails within EDH with about 24.6 km of trail. Approximately 5 km of these trails are proposed for closure. However, the portions of trail slated for closure south of the Chalk Lake Road allowance will not be closed until the trail system within Dagmar North and South is implemented.

The Trans Canada Trail crosses through the Glen Major property, entering from Walker Woods and moving southeast through the site to Uxbridge-Pickering Townline and eventually further south out of the EDH complex towards Clarendon.

There are four access points to the Glen Major trail system. Two of these access points are parking lot trail heads - the Glen Major parking lot (Three Rocks) at the intersection of Uxbridge-Pickering Townline and 7<sup>th</sup> Concession Road and the Glen Major aggregate pit parking lot north of the Uxbridge-Pickering Townline on 6<sup>th</sup> Concession Road. The trail-only access points are from the Chalk Lake Road allowance off 7<sup>th</sup> Concession Road and the Uxbridge-Pickering Townline road allowance off 6<sup>th</sup> Concession Road.

Approximately 12 trail problem areas were identified within Glen Major as areas requiring further study. These trail sections exhibit erosion, fall line alignments, or poor sight lines. Detailed site plans will be needed to resolve these issues.

One new trail is proposed to connect the Glen Major parking lot/trail head (Three Rocks) at 7<sup>th</sup> Concession Road with the lookout at Post 25. The purpose of this new trail is to resolve trail conflict and reduce pressure on the existing trail system.

The southern portion of Glen Major, sometimes referred to as the Osler Tract, currently has no trails. A single trail running north-south along the western boundary of the property is proposed under the condition that trail access along the CP Rail right-of-way can be secured for the Trans Canada Trail.

### 5.4.6 Purcell (Glen Major) Property

No trails currently exist on the Purcell property. However, should access be secured for a trail from Glen Major along the CP Rail right-of-way, a single trail to move the Trans Canada Trail into greenspace and away from the Uxbridge-Pickering Townline roadway may be contemplated.

### 5.4.7 Skyloft-Dagmar Corridor

TRCA is currently exploring various options to secure a trail connection between Glen Major and the Durham Forest Main Tract (owned by Lake Simcoe Region Conservation Authority). The Skyloft-Dagmar Corridor is the focus of this process, as Skyloft abuts Durham Forest Main Tract and Dagmar South abuts Glen Major. Securing a continuous trail linkage through Skyloft, Dagmar North, and Dagmar South would complete the connection.

TRCA and Lake Simcoe Region Conservation Authority are in the process of finalizing an official access point between Skyloft and Durham Forest Main Tract. At this time trail users need to use Buzek Lane to move south from Skyloft to Dagmar North. A trail running south from the Skyloft property to Dagmar North parallel to Buzek Lane is being pursued. TRCA is also currently pursuing securement of a natural surface trail from Skyloft to Chalk Lake Road, as there is a connection from Chalk Lake Rd to the northern boundary of the TRCA Dagmar North property.

A connection between the two TRCA Dagmar properties is still being sought, and there is a need for parking to service these two properties. If a connection is made between these two properties, the Glen Major trail head and parking area at 7<sup>th</sup> Concession Road will serve as the main trail access to both Dagmar properties. If this is not possible, an access trail to the Dagmar North property will be developed directly from the Glen Major 7<sup>th</sup> Concession Road parking area bypassing Dagmar South, and this parking area will serve as the main trail access to Dagmar North. TRCA will continue to investigate opportunities to find additional parking and trail head solutions along the TRCA Skyloft-Dagmar corridor.

There is currently a private lease agreement for winter use of the trails on both Dagmar properties. TRCA plans to open the Dagmar properties for public use during the annual period not covered by the lease. TRCA will undertake a review of the lease agreement to ensure it is compatible with TRCA's long-term plans for these properties.

As part of plans to open the Dagmar properties to public use, TRCA is currently working in partnership with the Durham Mountain Biking Association (DMBA) to develop a mountain biking focused trail network in Dagmar North and Dagmar South. This was initiated to help relieve some of the user conflict issues noted in the 2010 EDH trail user survey. By developing a trail network in the Dagmar North and South properties catered to cycling, the majority of cycling use will be reoriented to the trails in and around

this network and concentrated away from the broader EDH trail system. The first phase of this trail development process is the Secondary Trail Plan Concept for the Dagmar North and South properties. This plan has been completed by DMBA in partnership with TRCA, and can be found in Appendix A.

### 5.4.8 Tannenbaum Lands

TRCA is in the process of developing a management agreement with Infrastructure Ontario for the Nesbit property, which is a part of the Tannenbaum Lands. These lands are owned by Infrastructure Ontario. The property is on the north side of the Lafarge aggregate pit, north of Walker Woods. No trails currently exist on the property. A single trail running east to west along the southern boundary of the property is proposed as part of the EDH Trail Plan.

## 5.5 TRAIL PLANNING

### 5.5.1 Current Trail Users

Between November 2008 and December 2009, TRCA undertook trail user data collection within the EDH property complex to assess existing trail use. This data collection consisted of two elements: infra-red trail counters installed on the trails, and a user questionnaire. The detailed results from this survey were published in March 2010 as the *East Duffins Headwaters User Survey* (2010).

The results of the trail counters found that the properties see over 53,000 visitors per year. The highest number of visitors was found in the summer months, followed by fall, winter and spring. On average, the most active access point was found to be the Towers parking lot off 7<sup>th</sup> Concession Road in northeast Walker Woods, followed by the Three Rocks parking lot in Glen Major, then the Albright Road access.

The user questionnaire found that that the most popular trail activity in EDH is mountain biking, followed by hiking/dog walking and cross-country skiing. Questionnaire responses revealed:

- On average, 47.3 % of individuals visited EDH once per week.
- The majority of users visited in the morning.
- While the most common trail access was the Towers parking lot in Walker Woods (7<sup>th</sup> Concession Road), users prefer the Three Rocks parking lot in Glen Major above all others.

- Mountain biking is the most often preferred trail use, followed by hiking.
- The majority of respondents (71.5 %) support a multi-use trail system.

While the majority of trail users are supportive of multi-use trails, many comments or suggestions mentioned user conflicts and potential methods to mitigate those conflicts.



EDH Trail users, 2006

### 5.5.2 Future Public Use

Ontario Ministry of Finance projections predict that by the year 2022 the populations of Toronto, the Region of York and the Region of Durham will grow by 10%, 22% and 20%, respectively. This growth increases to 18%, 47% and 45% by the year 2032. Assuming that a consistent proportion of the population will continue to visit EDH and that the regional distribution of visitors to the EDH will remain consistent, the properties may see visitor numbers swell by as much as 19 % by the year 2022 and 41 % by the year 2032. This level of use further underlines the need to direct trails to appropriate areas of the EDH properties and limit trail use to appropriate low impact activities. Furthermore, continuing to monitor the effects of trails on the natural heritage of the properties is integral to their future management.

### 5.5.3 Proposed Public Use

Appropriate passive public uses are permitted within the EDH trail system, including nature appreciation, hiking, trail running, cross-country skiing, snowshoeing, mountain biking and horseback riding. While dogs are permitted, dog walkers must keep dogs on-leash at all times while in EDH.

All trails in EDH are to be designated as mixed use. Designating all trails as mixed-use minimizes disruption to natural and cultural heritage features on-site, as trail uses

are consolidated to a smaller number of trails. By allowing all permitted trail uses on all trails, the motivation for trail braiding and rogue trail building will be reduced. It is also important to avoid false expectations about what trail users will or will not experience along the EDH trail system - by designating all trails as multi-use and signing them as such, users should be prepared to expect other permitted uses along any trail on the properties.

To minimize user conflict, trail uses will be controlled through trail design and public communication. It is recommended that TRCA explore formal agreements for the management of various trails with local user groups. By giving user groups a certain level of stewardship over the trails, it is hoped that users will self-regulate to prevent user conflicts.

### 5.5.4 Accessibility Opportunities

Opportunities for the development of a trail loop that meets the requirements of the *Accessibility for Ontarians with Disabilities Act, 2005* will be investigated. When a suitable trail location is found, it will be incorporated into the Trail Plan. The paved trails within the Pleasure Valley property may serve as such a location.

### 5.5.5 Trail Linkages

As mentioned in the connectivity principles of this Trail Plan, linkages and connectivity are of vital importance to the EDH trail system. The network-like orientation of the trail system allows users to develop personalized trail routes of varying lengths and difficulties and to extend trail routes as they see fit during a particular outing. Where there is a viewing area or highlighted feature, trails are provided to allow visitors to explore and learn about the natural and cultural resources within EDH.

In addition to providing opportunities for trail extensions and linkages within the properties, it is important to recognize the role of the connected and expansive EDH trail network in establishing the Township of Uxbridge as the Trail Capital of Canada. Important regional trail linkages cross through the area, including over 7.9 km of the Trans Canada Trail and over 15 km of the Oak Ridges Trail. Trail connections will be provided to Durham Regional Forest, and linkages are being explored with private landowners to further expand and connect the system.



Trail users in EDH, 2006

### 5.5.6 Emergency Management

The EDH trail system has designated primary evacuation routes. These routes represent the trails most suited for off-road vehicular access and are not designed for highway vehicles or emergency vehicles. Trail conditions are variable subject to changes in weather and should not be relied upon to support off-road vehicles at all times.

A preliminary emergency action plan has been developed to correspond with these routes and provide a course of action in the event of a trail emergency. Maps of the evacuation routes are included within the emergency action plan. TRCA is currently working with staff from Lake Simcoe Region Conservation Authority, the Township of Uxbridge, the Region of Durham and local emergency service providers to finalize the emergency action plan.

#### Management Recommendations:

- r72. Circulate copies of the emergency management plan, once completed, to the local emergency services providers.
- r73. Circulate copies of the emergency management plan, once completed, to local trail user group representatives.

### 5.5.7 Implementation Priorities

It is important to outline the actions and priorities required to implement the EDH Trail Plan and establish a fully functioning trail system on-site.

The priorities for trail implementation on the properties are as follows:

- Secure safe public access to all authorized trails on the EDH properties.
- Develop trail connections between the EDH properties, in particular within the Durham Regional Forest to Dagmar corridor.

- Undertake trail work to correct degraded trail conditions or move trails from ecologically or culturally significant areas (as outlined in Maps 5.1 - 5.8).
- Complete all proposed trail closures.
- Develop an interpretive trail and interpretive signage markers through Walker Woods and potentially elsewhere in EDH.
- Develop the cycling focused trail network for the Dagmar properties in partnership with DMBA.

One of the great advantages of EDH is that there is already a high-functioning trail system. To support the implementation priorities, Maps 5.1 - 5.8 identify areas of improvement where increased connectivity would be beneficial, where corrections or works are required to improve the overall sustainability of the trails, or where the density of the trail system is too high to ensure a lasting and healthy ecosystem.

The principles set out in this Trail Plan will continue to guide decision-making regarding trail development. In the development of any new trails, TRCA Ecology staff will be consulted to ensure that trail densities will not increase to a level that will significantly impact the natural state of the properties. Where soil disruption is to take place, TRCA Archaeology staff will be consulted to ensure that development will not significantly impact cultural heritage features. In all cases where significant trail development is to take place, consultation with the EDH Stewardship Committee and local user groups will take place prior to the implementation of trail work.

It should be noted that the EDH Trail Plan is to exist as a living document. Trail implementation is under constant development and revision. Because of constraints, projects are implemented as resources become available, and actions are prioritized through consultation with the Tracks Subcommittee of the EDH Stewardship Committee.

### 5.5.8 Monitoring and Review

As plan implementation occurs, the plan should be monitored and reviewed to assess if changes should be made.

#### Management Recommendations:

- r74. Monitoring of the EDH trail system should be conducted on an ongoing basis to assess the success of implementation objectives, trail use and quality.
- r75. Review of the Trail Plan should be conducted at a minimum every three years, or as deemed necessary by TRCA staff, partners, and the EDH Stewardship Committee.

### 5.5.9 Guidelines for Modification and Closure of Existing Trails

Because the EDH trail system is largely established, the majority of trail work will likely be maintenance, modifications, or closures of existing trails. This section describes the implementation process for a major trail modification or closure. Smaller trail repairs or maintenance do not need to proceed through this process. Realignment or closures may be proposed by members of the public or identified by TRCA. It is important to recognize that the EDH Trail Plan includes trails that cross private lands or lands under a management agreement. Wherever this is the case, the identified landowner should be notified and involved in the planning process to modify or close a trail.

#### Phase 1 Deliverables: Issues Report and a Preliminary Trail Proposal

The outcome of Phase 1 is to confirm the need for trail realignment and/or closure and identify a possible solution.

1. Identify the area or trail being considered and potential concerns. This should be completed by the proponent. A preliminary site visit with the land manager should be arranged at this stage.
2. Develop a written justification and rationale for the realignment and/or closure. This must be submitted to the landowner and/or land manager. The same should be submitted to the EDH Stewardship Committee via the Tracks Subcommittee.
3. Develop and evaluate options for addressing the issue or concern. This may include such actions as removal of obstacles (e.g., a fallen tree), installation or correction of a sign, trail closure, or trail construction.
4. Present written justification and improvement/implementation options to the land manager, TRCA and Tracks Subcommittee.

#### Phase 1 Deliverables: Issues report and a preliminary trail proposal

Support by landowner and/or land manager and the EDH Stewardship Committee is required to proceed to Phase 2.



Data Collection in EDH, 2016

## Phase 2: Detailed Evaluation

The outcome of Phase 2 is to secure approval in principle for the trail interventions. Detailed designs and construction procedures may then be developed.

1. Investigate existing trail uses and conditions and determine influences to trail design.
2. Mark the proposed route or route to be closed for landowner and/or land manager review. This can be accomplished with pin flags or flagging tape. Notification of initiation and completion should be given to the land manager so that the land manager can advise other stakeholders of the activity.

3. Obtain GPS coordinates of the existing trail and the proposed trail realignment (if applicable). It is preferred that this be completed by the proponent. Proponents are encouraged to contact the land manager in cases where the proponents are not proficient in this area.
4. Create and submit a map or circulate data files of the existing trail and the proposed trail realignment (including trail to be closed, if any). This information is circulated for review and comment to the landowner and/or land manager. Interested TRCA groups who may be involved include Terrestrial and Aquatic Ecology, Geo-environmental, Development, Planning and Regulation, Enforcement, Forest Resource Management, Conservation Parks, Conservation Lands, Property Services, Archaeology, Resource Management, and the appropriate watershed specialist. It is suggested that the proposed trail changes be subjected to a cultural heritage and a terrestrial natural heritage review at a minimum. The need for further detailed, on-site surveys should be noted as part of the review process.
5. Circulate a map of the proposed realignment and current trail route to other stakeholders for review and comment. These stakeholders may include, but are not limited to, landowners (where they are not the land manager), neighbours, funding partners and regulating bodies, such as the Ministry of Natural Resources and the Department of Fisheries and Oceans. The need for further detailed on-site surveys should be noted as part of the review process.
6. Adjust trail proposal as necessary based on recommendations from the landowner and/or land manager's review committee and other stakeholders.
7. Obtain approval of the new route from the landowner and/or land manager and Tracks Subcommittee.

## Phase 2 Deliverables: An Approved Trail Alignment

Approval by landowner and/or land manager and EDH Stewardship Committee required to proceed to Phase 3.

### Phase 3: Design and Implementation

At the end of Phase 3, trail designs have been finalized, funding for construction (or closure) has been acquired and the trail works have been completed.

1. If new construction is proposed, conduct detailed trail alignment surveys. This includes archaeological, terrestrial and aquatic surveys when required per direction received in Phase 2.
2. If new construction is proposed, prepare detailed construction drawings and procedures. The work may be completed by volunteers, staff of the land manager, EDH Stewardship Committee members or contractors.
3. Obtain cost and time estimates on required work (if construction required).
4. Obtain budgetary approvals by funding agencies, as necessary.
5. Schedule implementation. This should be done in consultation with other groups active at the site so that conflicts can be minimized, efficiencies realized and reproduction or migration periods avoided.
6. Notify users of upcoming improvements and trail closures. This should be communicated by at least one of the following methods: on-site sign, a post on corresponding websites (such as sites that host the trail guide, park information and trail stewardship committee), and notices in corresponding newsletters.
7. Complete trail improvements.
8. Monitor, as required, in reference to the property's baseline conditions report.

### Phase 3 Deliverables: Completed Trail Realignments or Closures and Trail Monitoring Data.



Closed Trail in EDH, 2000

## 5.6 TRAIL IMPACTS AND MITIGATION TECHNIQUES

The major sources of impacts to the environment due to trail use include disturbance due to trails works, human contact with wildlife, soil erosion, trail-side trampling and shortcutting. Key potential causes of disturbance and their recommended mitigation methods are described below.

### 5.6.1 Trail Works

Trail development and maintenance works will by nature impact the surrounding habitat due to landscape changes or vegetation clearing. Correctly routing the trail and implementing proper trail construction, maintenance, and clearing techniques will help mitigate potential impacts caused by trail works. Details on trail construction impacts can be found in Section 5.7

### 5.6.2 Human Contact

Wildlife species and plant communities have different levels of tolerance to human activity which if exceeded could result in abandonment of habitats or ecological imbalances. Trail routing and accompanying signage should focus on preventing disturbance to sensitive or rare species through avoiding associated habitats. Education and other proactive approaches such as signage and interpretive features can also help ensure that interactions between humans and wildlife within EDH are positive.



Ovenbird in Glen Major, 2013

### 5.6.3 Environmental Impacts Created by Overuse

Environmental impacts caused by trail overuse can include trampled vegetation, slope erosion, soil compaction, increased root exposure and trail widening around wet areas. The result over time is a spreading, compacted trail system that not only affects the ecological quality of the surrounding area but also negatively affects the user experience.

### 5.6.4 Soil Erosion

Erosion is the natural process through which soil and rock are worn away by wind and water. Trail erosion can be accelerated by the combination of users, water and gravity. When left unmitigated, erosion can destroy a trail and damage the surrounding environment.

Erosion degrades trail functionality, safety, and aesthetics, as well as natural features. The immediate impacts include loss of topsoil, root exposure, stream sedimentation, contamination of water supplies, and slope sliding and slumping. There are certain soils which are particularly vulnerable to erosion especially when wet. Erosion risk is increased through excessive removal of vegetation, excessive compaction of vegetation due to trampling, uncontrolled surface runoff, steep slopes and improper installation of trail structures, such as bridges or culverts.

EDH has a significant number of groundwater discharge areas. These areas tend to remain wet year-round, thus making them particularly sensitive to erosion from trails. Trails should be planned, designed, and maintained accordingly, with boardwalks and other construction features providing possible solutions to minimize impacts.

### 5.6.5 Trail-side Trampling & Shortcutting

Damage to vegetation and soils occurs when users wander off trails. This happens with overly narrow trails, overuse of trails, ill-defined trail edges and difficult or unsafe trails (muddy, eroded, blocked, subject to mud slide, etc.). Shortcutting happens if trails are too difficult or unsafe, if the user is attracted to an interesting feature off-trail, or if an easier route is visible.

## 5.7 TRAIL CONSTRUCTION

Beyond the ongoing effects of trail use, the actual trail construction process results in various impacts to the environment. These can include pruning, removal of vegetation, or soil compaction caused by construction machinery. Great care must be taken to control both

direct and indirect impacts during the construction process to minimize disturbance to the environment.



Trail Construction, 2000

### 5.7.1 Timing

Timing of construction should take into consideration the life cycles of the various flora and fauna near the trail location. Wherever possible, trail work should occur during times of least disruption to local species and in particular to local or regional species of concern.

### 5.7.2 Clearing

Clearing refers to the removal of materials that may obstruct movement along the trail. This may include the removal of small obstacles or vegetation such as brush, shrubs or trees. Prior to clearing any trees, an impact assessment will be completed to describe the trees and their numbers, species, conditions and locations of removal. This assessment will help ensure an appropriate trail routing with an acceptable environmental impact. Complete flush to grade clearing will generally occur on the tread surface, while the rest of the cleared area will only see the removal of trees and large shrubs. Smaller shrubs and groundcover will remain.

### 5.7.3 Surfacing

The existing grade should not be unnecessarily disturbed to create a trail base, especially on flat solid ground. Minimum disturbance will provide the best natural aesthetic for the final trail. In EDH natural trail surfaces should be used wherever possible, recognizing

property and landscape constraints. When native soil is not a suitable tread surface for the intended user or does not provide adequate support, alternative tread surfaces can be considered such as granular fills, boardwalk sections, or stone. The surfaces should provide an appropriate level of comfort and safety for the user and should be constructed to blend in with the surrounding environment.

Granular surfaces commonly consist of gravel, limestone fines or other crushed rocks. When compacted, granular surfaces are suitable for high use areas. Also, when placed upon a sub grade of larger clear stone granular surfaces are suitable for areas susceptible to erosion or rutting. Granular surfaces have been used in the past within EDH to help stabilize failing trail surfaces, with some limited success.

Hard trail surfacing materials such as armour stone or flagging stone can be used in areas requiring greater protection from erosion, or in areas that are susceptible to excessive moisture. These materials are initially expensive and labour intensive, but if installed correctly will require little maintenance over the long-term.

Asphalt and other paving solutions, such as concrete, are potentially suitable for high use areas or for accessible trails. Some of the properties within EDH were acquired with existing paved trails and these may be considered for future assessment and designation as accessible trails. No newly constructed trails within EDH have been paved, nor are they currently being contemplated. The ecological impacts associated with paving sections of trail within conservation lands can be considered as high. Paved surfaces have a long life span and as a result are very difficult to remove or reroute once implemented. Poured paving solutions such as concrete have a high impact on slow moving fauna species such as snakes and salamanders who have difficulty evading trail users. All alternative surfacing/routing solutions should be explored prior to the use of asphalt, concrete or any other long-term hard paving surface.

A mulch type surface (bark/wood chips) is attractive and in many cases compatible with the natural environment, but does not compact well. Mulch type surfaces can also act as mediums for the transport of diseases or pests to the forest. It is, therefore, not a preferred material for trail surfaces in the EDH or a suitable material for heavy use foot traffic or multi-use trails.

Just as bringing in wood chips or mulch may transmit pests or diseases into EDH, any outside material being brought into conservation areas brings some chance of

disrupting the local ecosystem. For this reason all trail re-routing or redesign options, including trail closure, should be considered prior to making the decision to bring in foreign surface materials into EDH.

#### 5.7.4 Boardwalks

Boardwalks should only be constructed in extremely wet areas where alternative routing solutions are not available. Typically, boardwalk construction involves fixing untreated rot-resistant timber and planking on rot-resistant timber sills that are made to sit on large concrete pavers levelled with gravel. A variety of configurations are possible depending on site conditions and whether the boardwalk is to be used as a simple walkway or as a key trail feature, such as a lookout platform. Boardwalks should be robust and constructed to withstand all weather conditions, high levels of use and potential vandalism. The design and construction of boardwalks should conform to local building codes.



Boardwalk Construction in EDH, 2000

#### 5.7.5 Barriers

Barriers can be constructed from a variety of materials including rock, timber or steel. “Green” or live barriers may also be suitable in certain situations by using abrasive shrubs or plants to deter entry (i.e., hawthorn, raspberry, etc.). Care should be taken to choose an appropriate barrier material and design that is safe and blends well with the natural landscape while still deterring undesired access or encroachment. Where green or live barriers are used, it is important to take environmental balance into consideration and select species that are non-invasive and native to the site.

## 5.8 SIGNAGE

Trail signs are an important element that enhances the trail experience and provides guidance to the user. Signs provide four major functions:

- Identification
- Direction
- Regulation
- Information/Interpretation

Sign location is critically important. All sign features should be placed so that they face the anticipated direction of traffic, are unobstructed by vegetation, and are easy to read and understand. Signs should also caution visitors as to the expected level of challenge, risks, maintenance levels and staff presence on the properties.

The colour and scale must be compatible with the site conditions and the mounting height should be suitable for a variety of user groups.

While a more detailed trail signage plan will be developed and implemented during the implementation of the Trail Plan, some initial assessments have estimated the number of additional sign posts required for the properties. There are 62 existing sign posts within EDH and approximately 48 additional sign posts are being proposed under this plan. Locations for the proposed sign posts are found on the proposed Trail Plan Maps (5.9-5.17).

### 5.8.1 Trail Heads

At present there are five primary trail head locations. These are identified as:

- The Brock Tract parking lot and trail head on Brock Road.
- The aggregate pit restoration site parking lot and trail head on 6<sup>th</sup> Concession Road.
- The Glen Major parking lot and trail head (Three Rocks) north of the Uxbridge-Pickering Townline on 7<sup>th</sup> Concession Road.
- The West Walker Woods parking lot and trail head south of Albright Road on 6<sup>th</sup> Concession Road.
- The East Walker Woods parking lot and trail head on 7<sup>th</sup> Concession Road (Towers parking lot).

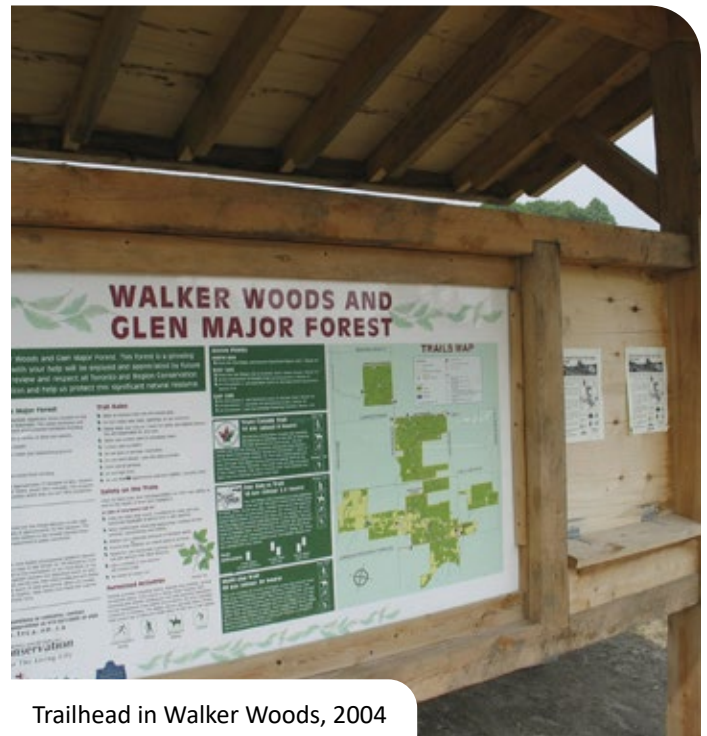
Efforts are underway to designate additional primary access points and trail heads to the Wilder Forest and Wildlife Area, North Walker Woods, Skyloft and Dagmar properties.

**Facilities that should be provided at trail heads include:**

- Parking;
- Signage with wayfinding, regulations, trail characteristics and potential risks.
- A comprehensive map depicting all permitted trails and locations of markers along each trail for wayfinding and emergency use.

### Management Recommendations:

- r76. Update all trail head signs and maps to reflect the changes in the EDH Trail Plan and install trail head identification signs and kiosks at all new major trail heads.



Trailhead in Walker Woods, 2004

### 5.8.2 Trail Map and Guide

The *East Duffins Creek Headwaters Trail Guide and Map* (2007) was developed after the completion of the *Duffins Creek Headwaters Management Plan for TRCA Properties* (2003). Since then there have been several key changes to the EDH trail system, most notably the addition of several new properties and several changes to the trail layout. Upon the finalization and implementation of the EDH Management Plan Update an updated trail guide and map will be required.

### Management Recommendations:

- r77. Develop an updated trail guide and map for the EDH trail system in coordination with the EDH Stewardship Committee.

### 5.8.3 Interpretive Signs

There is some existing interpretive signage within the EDH complex, and signs highlighting the restoration project on the former Timber Brothers aggregate pit can be found on the trails leading from the aggregate pit trail head in the Glen Major property.

Locations for interpretative trails that highlight natural and cultural heritage features should be explored. The first area that has been highlighted for a natural heritage trail is North Walker Woods. The most probable location for a cultural heritage trail would be Walker Woods.

Interpretive signs should be incorporated into the trail design at key locations to highlight the natural and cultural heritage features of EDH. The purpose of these interpretative signs would be to increase public awareness of conservation and to increase public appreciation and respect for natural and cultural heritage resources.

### Management Recommendations:

- r78. Develop a natural heritage interpretative trail within the North Walker Woods trail system.
- r79. Develop a cultural heritage interpretative trail within Walker Woods.

### 5.8.4 Trail Markers

Within the EDH properties, numbered trail makers exist at semi-regular intervals throughout the trail system. These trail markers are cedar posts with clearly identified numbers and a small map showing the local trail network and other trail markers in the vicinity. Each trail marker is oriented to magnetic north to help trail users direct themselves on-site.

Certain properties such as the Wilder Forest and Wildlife Area, Skyloft, and the Dagmar properties have no trail markers. The rest of the EDH properties have some markers, but in certain areas the number of markers has been found to be lacking. Trail markers will be installed on all EDH properties where additional posts are required.

### Management Recommendations:

- r80. Install post markers and wayfinding signs as shown on the proposed conditions maps.
- r81. Indigenous elements should be incorporated into the signage plan for EDH.



Trail Marker in North Walker Woods, 2017

## 5.9 TRAIL MANAGEMENT

Trail operations should include managing the type, volume and season of trail use to achieve the goals and objectives for the trail system. Elements of user management include:

- Monitoring the volume and type of trail use
- Monitoring how trails and trail users are performing relative to the trail management objectives
- Implementing trail restrictions and regulations
- Informing users of trail etiquette, announcements, and alerts through newsletters, brochures, maps and signs. This information can also include the types and levels of use intended for the trail system.

As EDH is an un-serviced area without a regular staff presence, the majority of user management will occur through trail design and signage as opposed to active enforcement.

Trails should be monitored by TRCA staff, the EDH Stewardship Committee and Trail Captains to ensure acceptable trail conditions and impacts on the natural and cultural features of the site.

Trail management will be coordinated with the Tracks Subcommittee of the EDH Stewardship Committee.

## 5.10 MAINTENANCE

To keep trails safe, functional and attractive through the years, a routine maintenance program is necessary. Maintenance should be carried out on a regular basis by TRCA staff or contractors/partners with the help of Trail Captains and the EDH Stewardship Committee to prevent the trails falling into disrepair.

### 5.10.1 Surface Treatment

Maintaining the trail tread will help minimize the impact of trail users on the surrounding habitat. The three most important factors to consider when maintaining tread surface are firmness, evenness and dryness. A firmer tread and even grades are generally required on trails travelled by those with mobility problems or on those trails that will see a high level of traffic by maintenance vehicles.

### 5.10.2 Erosion

Minimizing and mitigating erosion is important for keeping the trails in EDH in good working order.

Trails should be regularly monitored for signs of erosion. Areas identified as having a high risk of erosion should be marked as a priority and addressed following the trail modification process guidelines identified in section 5.5.9. A wide variety of alternatives should be considered including resurfacing, redesign, rerouting and in some cases trail closure.

### 5.10.3 Litter Removal

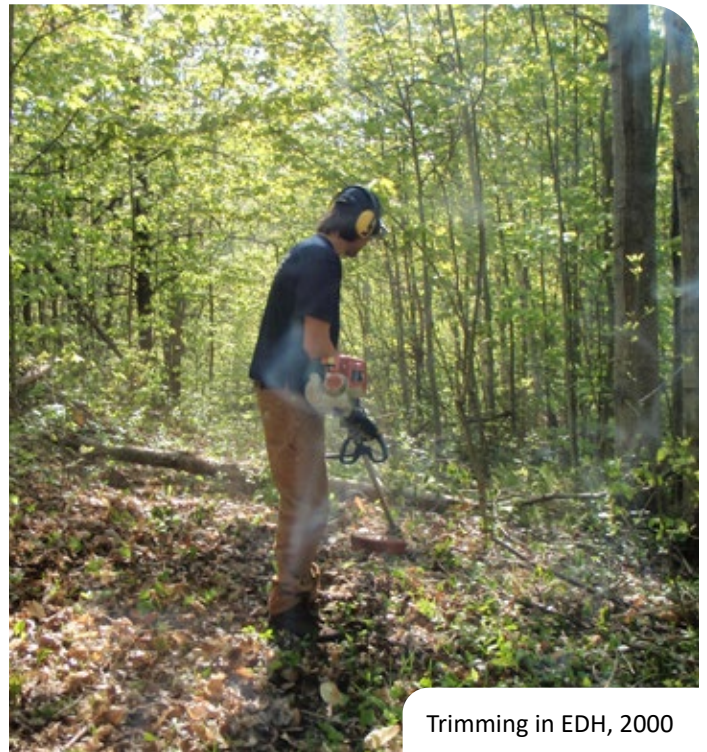
At present trash has not been an issue of high concern within EDH. However, as more people use the trails there is a greater chance for litter to become a problem. It is important that levels of litter be monitored on an ongoing basis, and where problem areas are found they should be dealt with as soon as possible. TRCA will work with the EDH Stewardship Committee, Trail Captains and partners to ensure that EDH remains as pristine as possible.

### 5.10.4 Invasive Vegetation Control

Non-native invasive flora are aggressive plants that outcompete local varieties of plants and can cause these local varieties to fall into decline. Examples of invasive plants that are spreading through EDH are dog-strangling vine, garlic mustard and common buckthorn. Monitoring and control of these species is crucial to ensure the continued biodiversity of EDH.

### 5.10.5 Pruning and Trimming

All pruning and trimmings of trees along trail routes shall be subject to the standards and guidelines established in TRCA's *Policy for Managing Hazard Trees* and the associated *Operational Procedures for Managing Hazard Trees*. Any major limbs or trees that are in poor condition and within falling range of the trail should be trimmed. Branches, limbs and any other debris that fall across the trail or at the trail head should be removed.



Trimming in EDH, 2000

### 5.10.6 Windfalls/Hazard Tree Removal

Hazard tree removal along trail routes shall be subject to the standards and guidelines established in TRCA's *Policy for Managing Hazard Trees* and the associated *Operational Procedures for Managing Hazard Trees*. Under this policy all lands directly adjacent to trails within EDH are designated as a "Passive-Use Conservation Area/Resource Management Tract."

### 5.10.7 Structures

Trail structures may include bridges, drainage features, raised trails, stairways, retaining walls and barriers. Generally structures should be minimized - structures are expensive and should only be used where they are essential to retain the level of comfort and safety on the trail. Structures should be designed to reflect the natural surroundings. Natural materials are usually best, and if possible local materials should be used.

All trail structures should be monitored on a regular basis for safety and stability. All broken or rotting sections of lumber should be replaced immediately.

### Management Recommendations:

- r82. Continue to work with the local trail user groups, such as the Oak Ridges Trail Association, to maintain the EDH trail system.



Bridge in EDH, 2000

### 5.10.8 Vandalism

Trails are subject to many forms of vandalism, including the carving, defacing and misuse of shelters, benches, picnic tables and trees. Such acts of wilful or negligent destruction require both preventative and reactive attention.

Although very little will stop the determined vandal, many techniques deter casual vandalism or can bring the vandal to justice. Bollards, posts or gates should be used to control unwanted vehicular access. Semi-regular police or enforcement patrols can be used to monitor trail sections that are particularly attractive to vandals. Strategically placed lighting will discourage destructive activity. Lighting should be placed at main trail head locations and associated buildings wherever possible. Also, all lighting should function on motion sensors and be directional – directed downward, lighting only the area associated with the building or trail head. Perhaps the most important effort that should be made in the prevention and apprehension of vandalism is the education of the public. Various media, including television and newspapers, as

well as educational programs in schools can raise public awareness regarding the issues surrounding vandalism.

Within parks and along trails, orientation displays can be used to educate trail users about the damages of vandalism. Trail brochures and eye-catching posters can also service similar functions. Providing outreach programs to children in the classroom, as well as sponsoring outdoor education programs, allow TRCA to teach respect for the facilities and foster pride in the natural environment. Neighbourhood Watch and other volunteer surveillance programs should be encouraged to reduce vandalism.

### 5.10.9 Trail Maintenance Systems

A maintenance operations system is required to plan, schedule, perform and evaluate maintenance activities. The following guidelines outline the development of such a system. TRCA should encourage user groups to actively participate in trail maintenance with the EDH Stewardship Committee and the Tracks Subcommittee.

#### 1. Establish maintenance objectives.

These may vary from trail to trail depending on traffic flow or special trail features, such as built structures or a particularly ecologically sensitive area. The major objectives will include (1) ensuring user safety, and (2) maintaining the trail and its amenities at a level consistent with the design and planning standards. This may also involve undertaking seasonal trail closures if deemed appropriate through monitoring.

#### 2. Evaluate trail needs.

Making lists of maintenance tasks and seasonal requirements is necessary to satisfy the maintenance objectives. It may be determined that certain trails will require closure or seasonal signage as a part of this evaluation. These would prevent safety hazards and negative impacts to the trail and surrounding ecosystem due to inappropriate use during certain times of the year (i.e., washouts due to rain or snowmelt).

#### 3. Develop a maintenance program.

Condense the maintenance tasks and seasonal requirements into a preliminary high-level schedule. Use this preliminary schedule to determine the number of crews or contractors required to complete the program and the number of staff per crew. With this information an initial inventory of needed equipment, including motor vehicles, can be determined. Maintenance budget will be a factor in all these decisions.

**4. Establish a trail monitoring program.**

Trails must be monitored regularly to facilitate prompt repairs along a trail system or to determine if a trail needs additional seasonal maintenance. This involves a thorough inspection of the trails and reporting all deficiencies with their location in a log format. Specific tasks can be assigned a code number for ease of reference and execution by staff.

**5. Schedule and keep records of maintenance.**

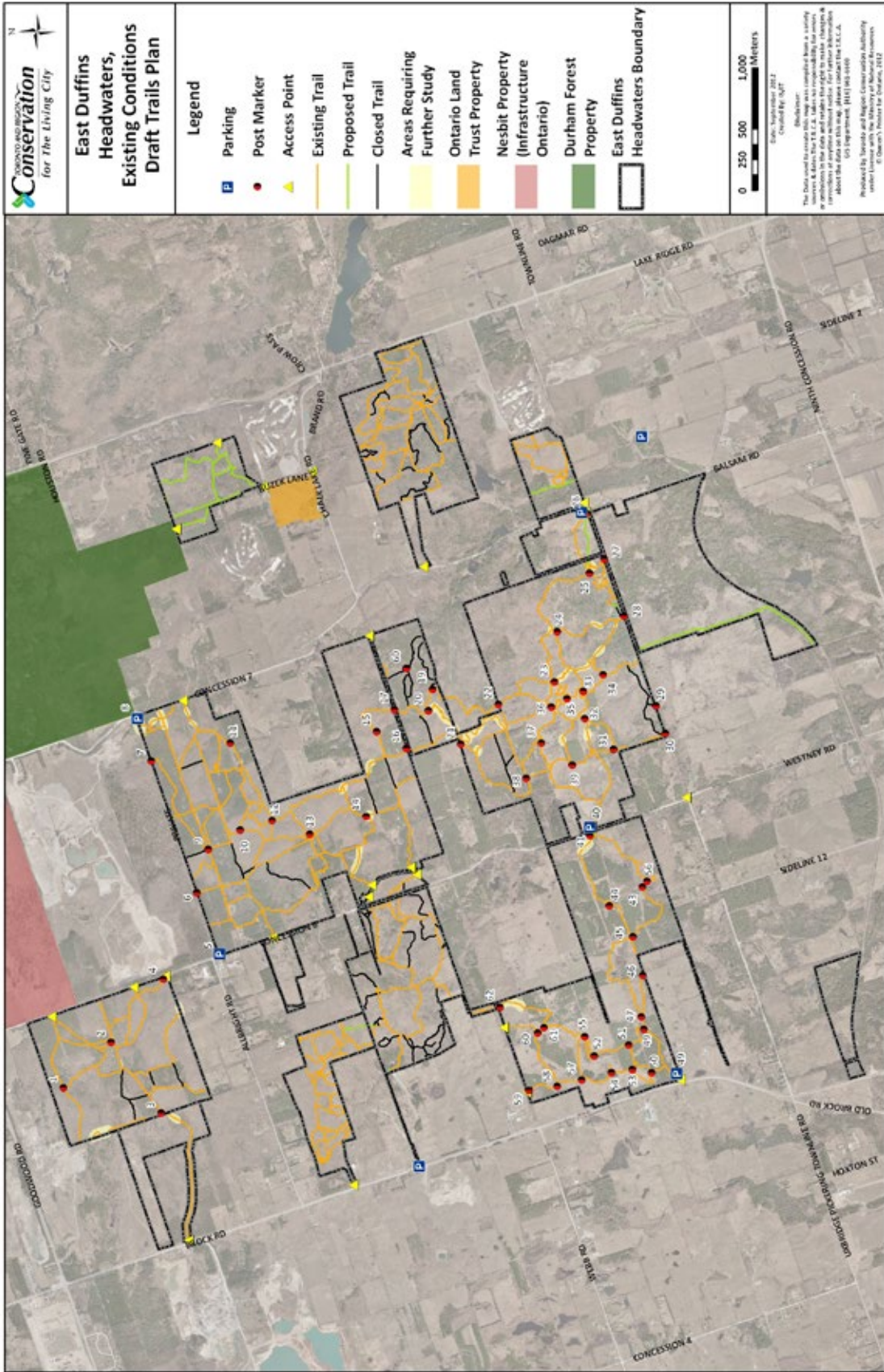
Regular maintenance can be scheduled on a yearly basis. A refined schedule will be the structure of the maintenance program allowing labour and equipment to be allocated. However, special maintenance (such as windfalls or vandalism, which are unplanned occurrences) must also be given attention during scheduling. Schedules will become the basis for work orders. As the work orders are completed by staff on the trails, work reports should be kept detailing the tasks completed, time required and work conditions (such as sun, rain, brush, bog, etc.); these work reports should be filed according to each particular trail and can be used to develop activity summary sheets or work standards. Activity summaries should be reviewed every two to three years to ensure that they are adapted to the needs of the trails. The summaries can be used to evaluate the efficiency of work crews and create time-efficient maintenance schedules.

**6. Evaluate maintenance logs and reports.**

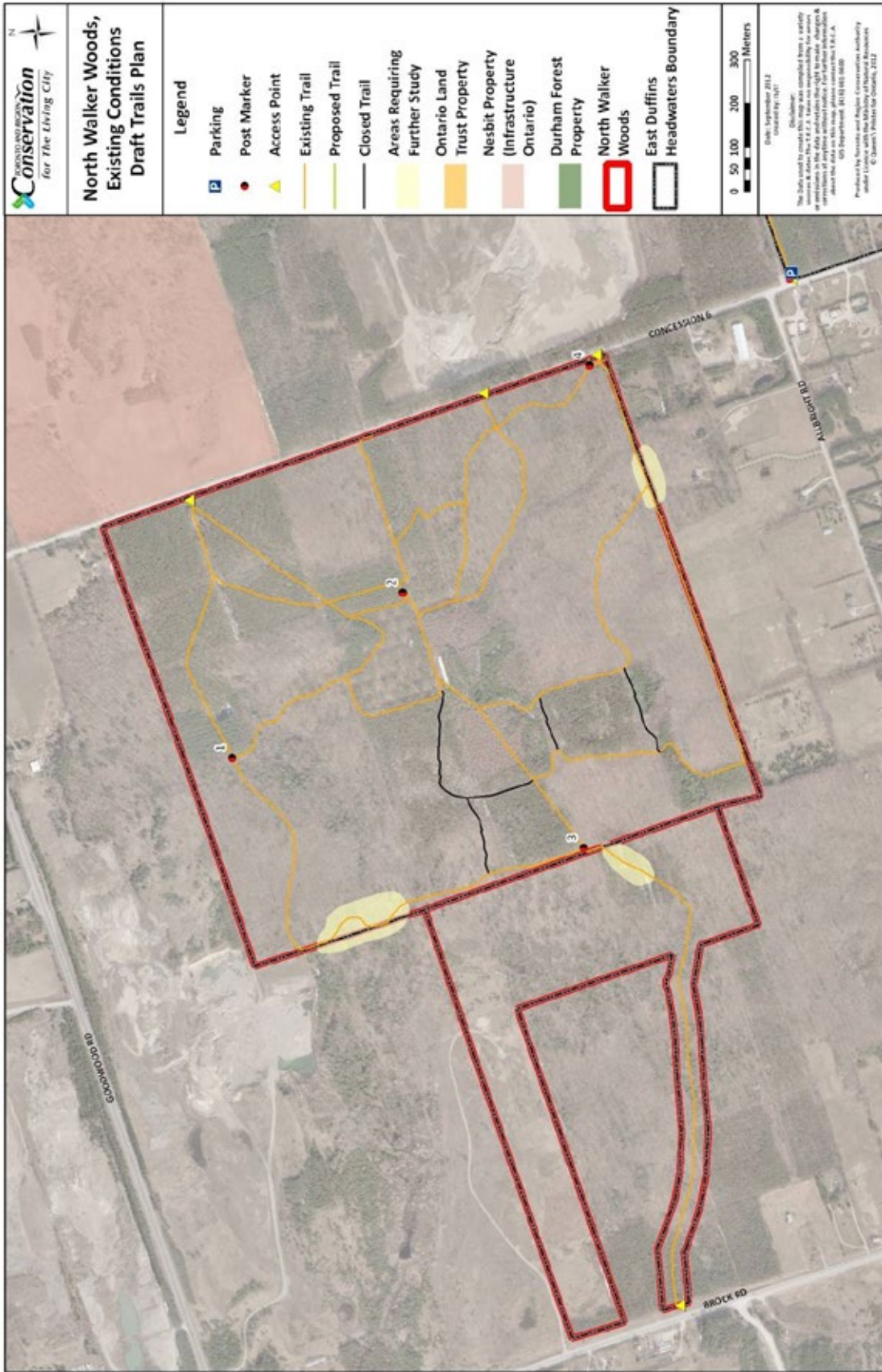
The trail logs and work reports should be reviewed on an annual basis, if not more frequently, to help identify excessive trail use, vandalism, damage and environmental degradation. This information must be communicated to Trail Planning and routing authorities so that trail routes can be reassessed. This evaluation may result in trail closures, up-scaling, down-scaling or rerouting.



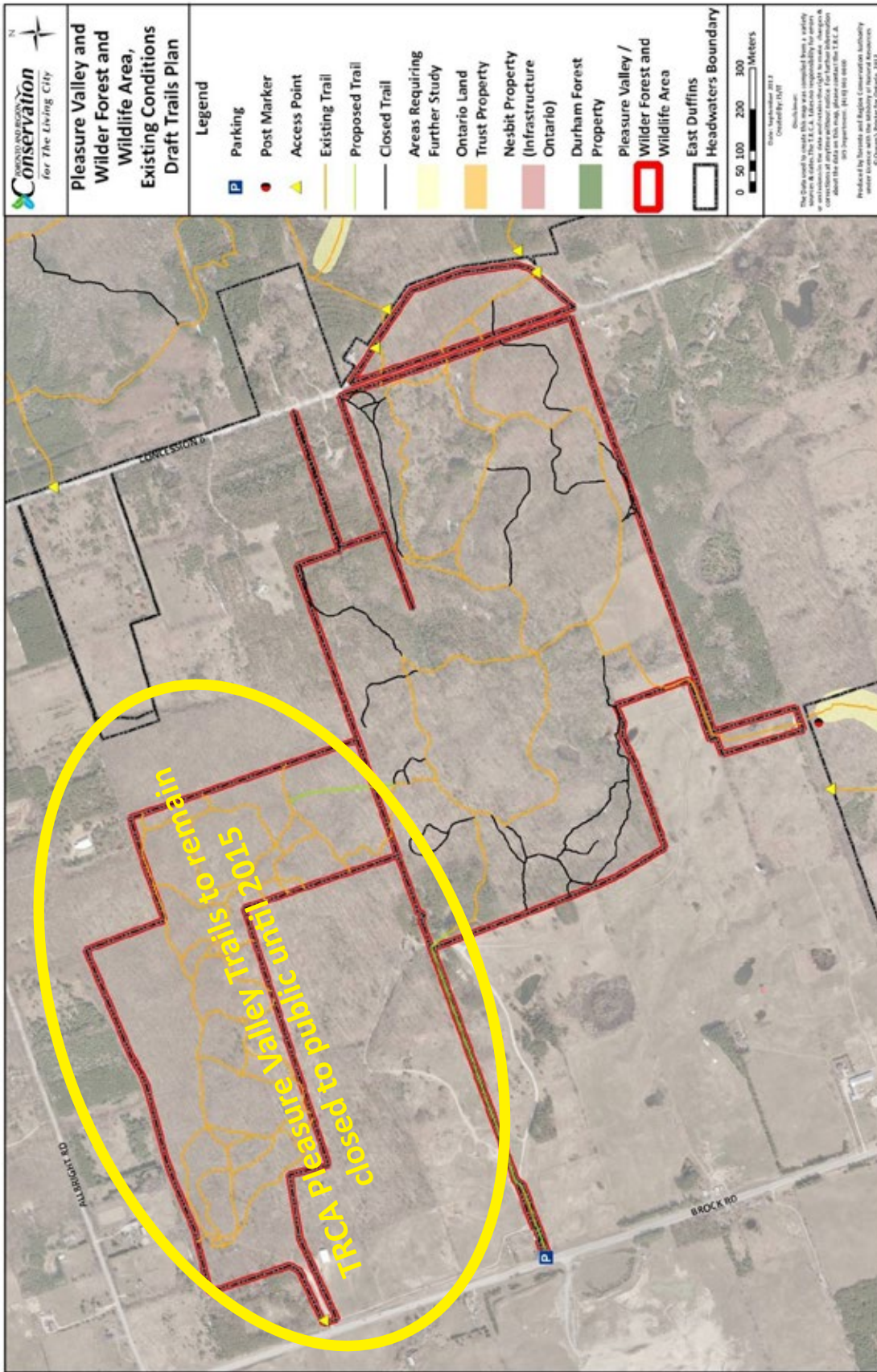
Trail Maintenance Tools, 2006



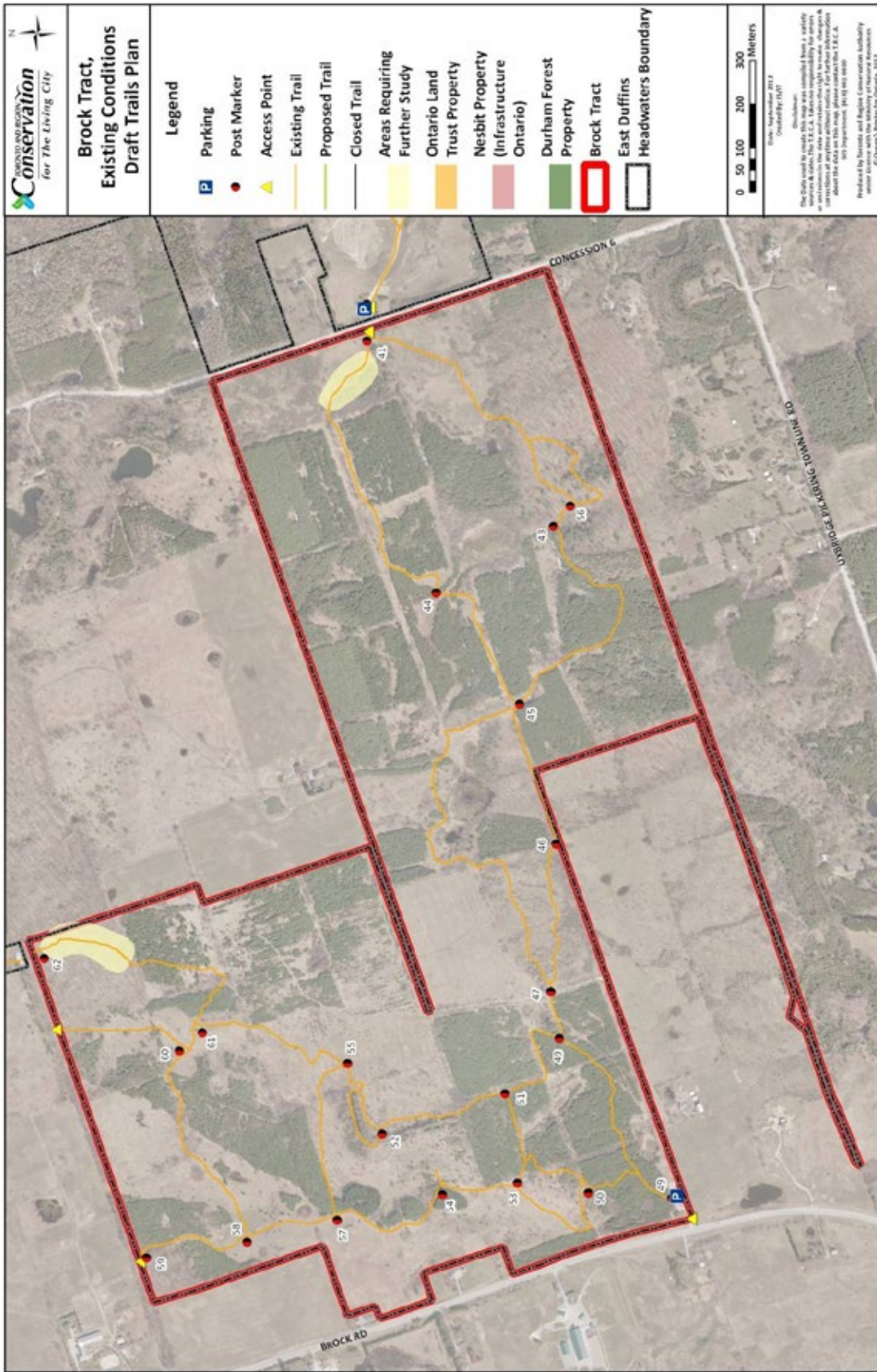
Map 5.1 EDH Trail Plan, Existing Conditions



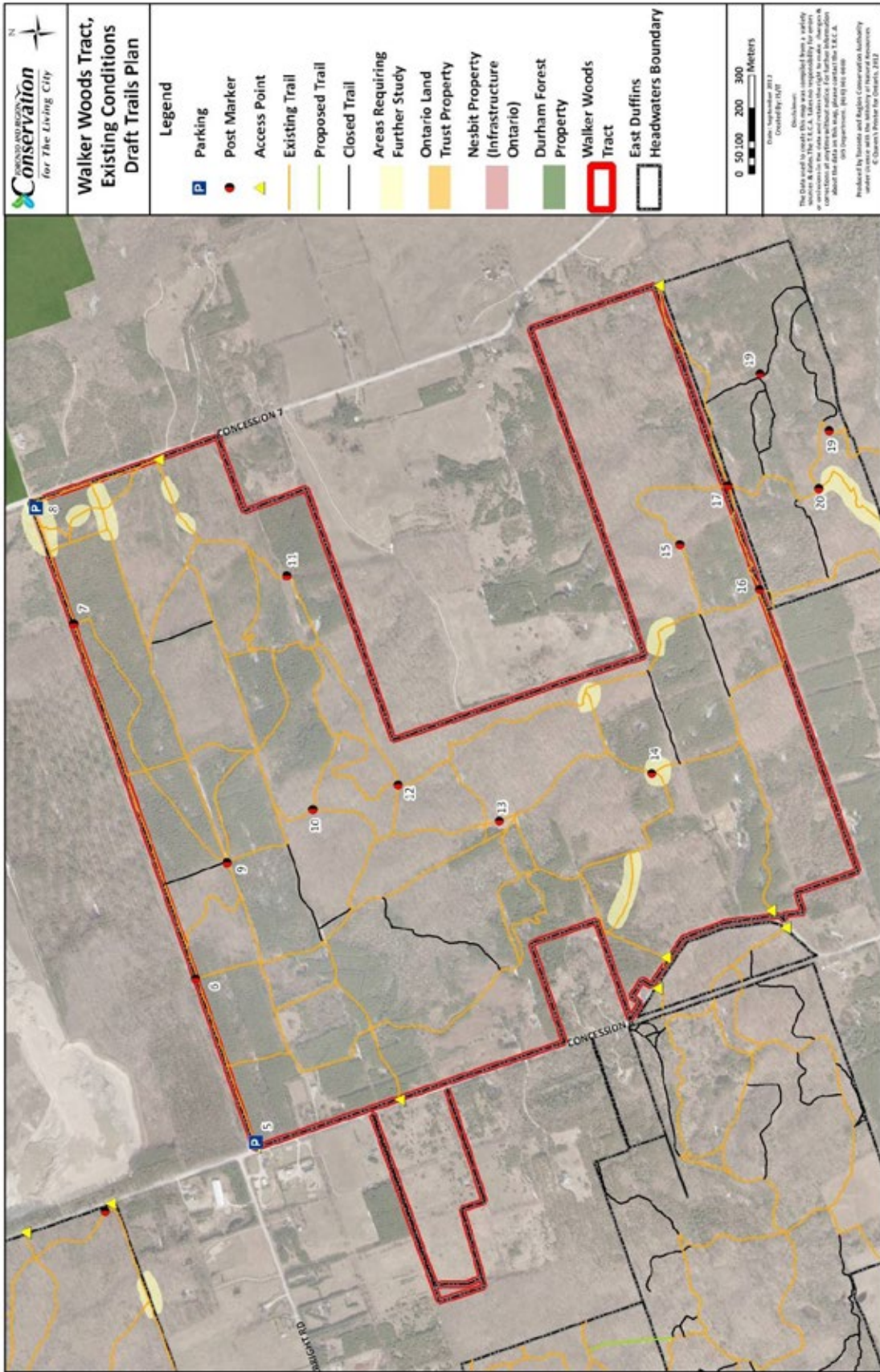
Map 5.2 Trail Plan, North Walker Woods Existing Conditions



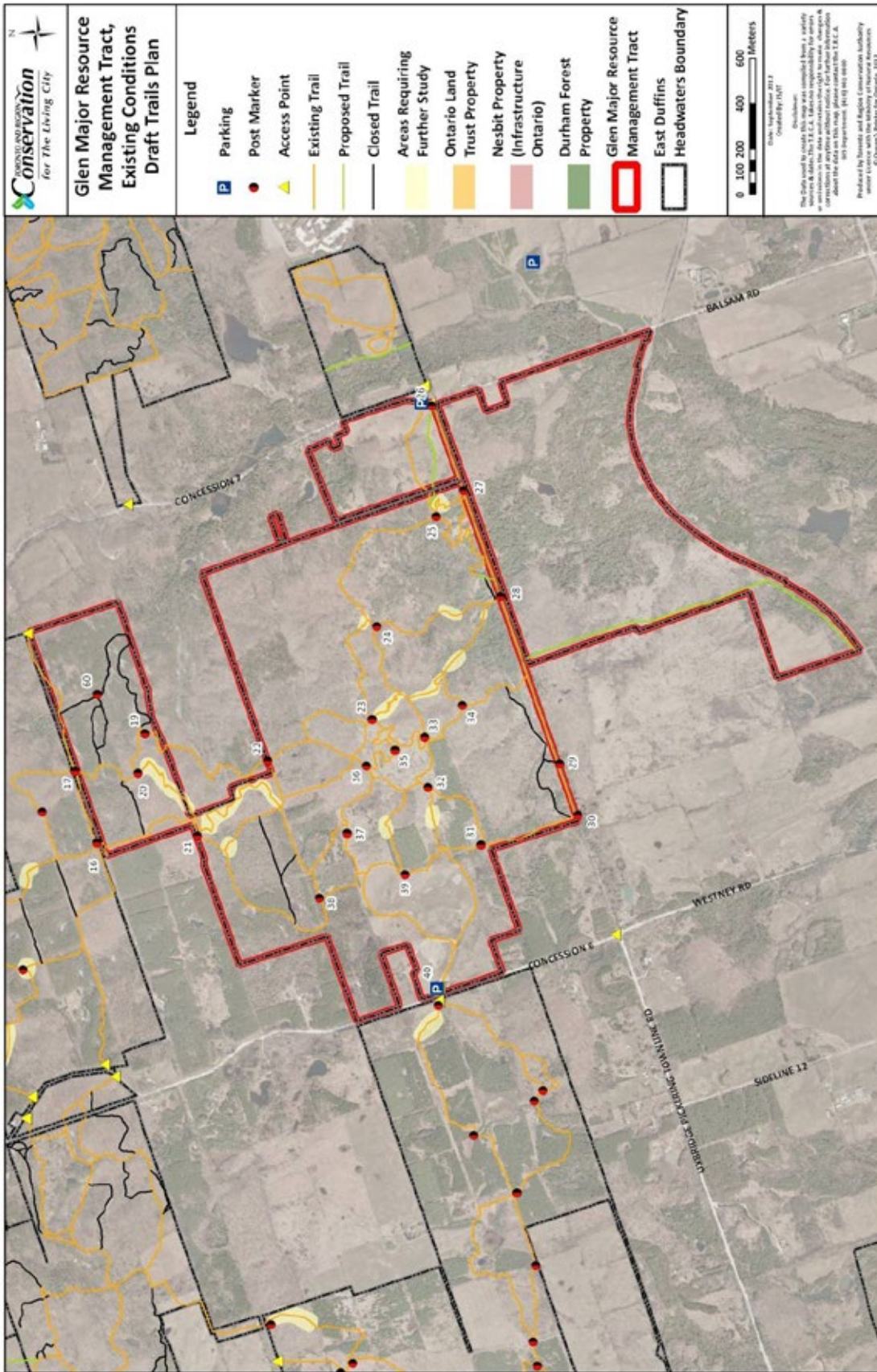
Map 5.3 Trail Plan, Pleasure Valley and Wilder FWP Existing Conditions



Map 5.4 Trail Plan, Brock Tract Existing Conditions

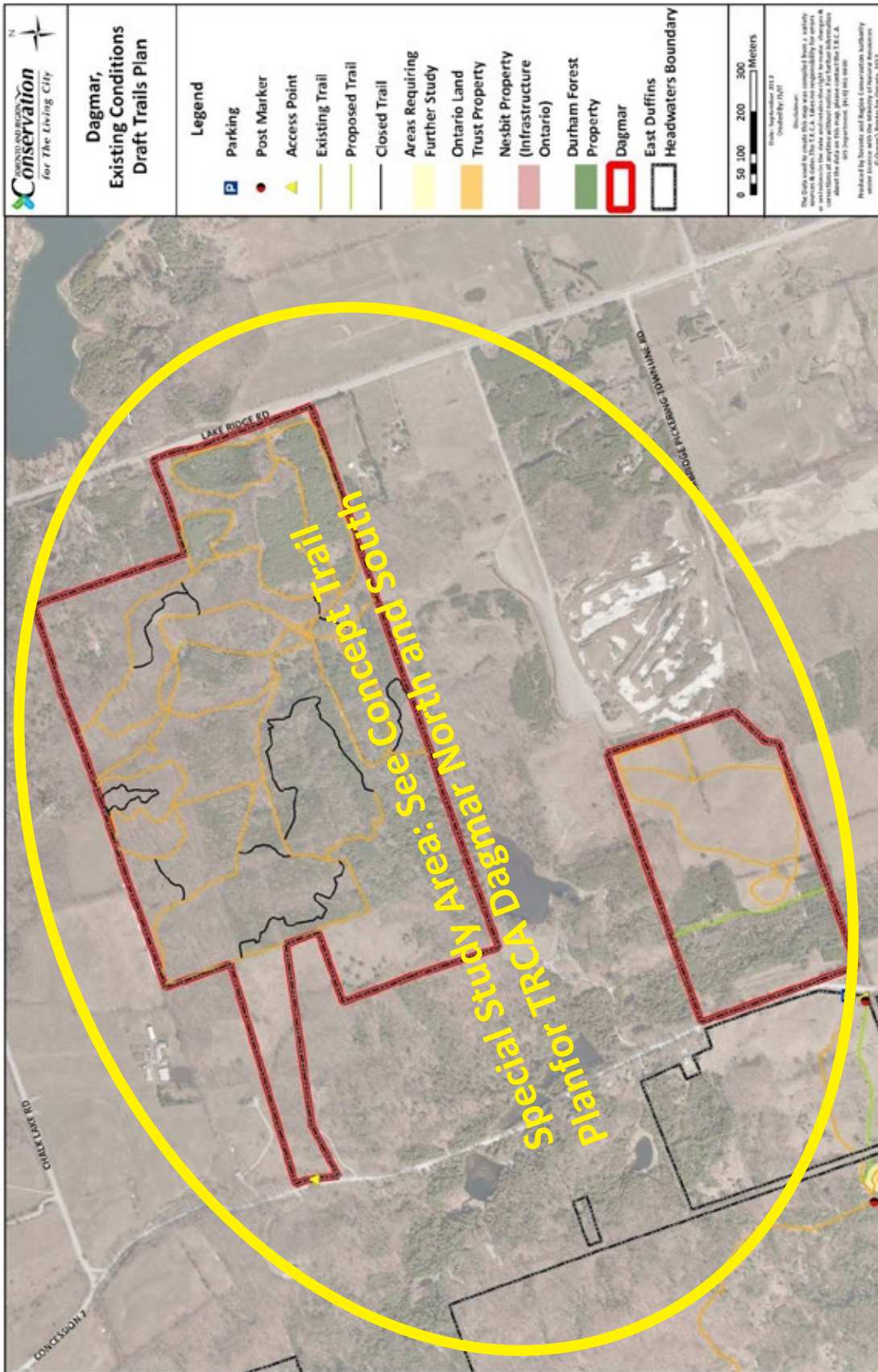


Map 5.5 Trail Plan, Walker Woods Existing Conditions

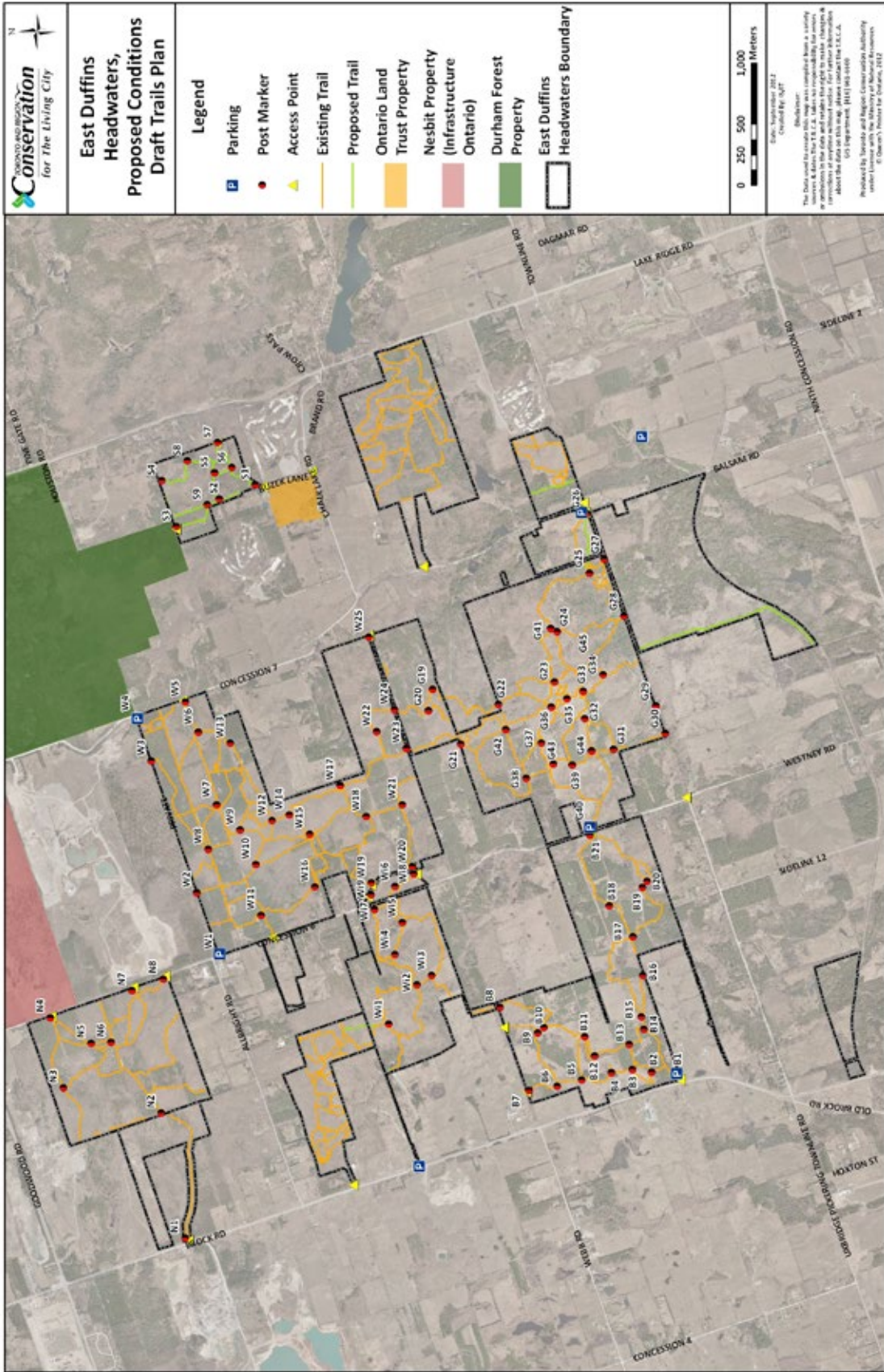


Map 5.6 Trail Plan, Glen Major Existing Conditions

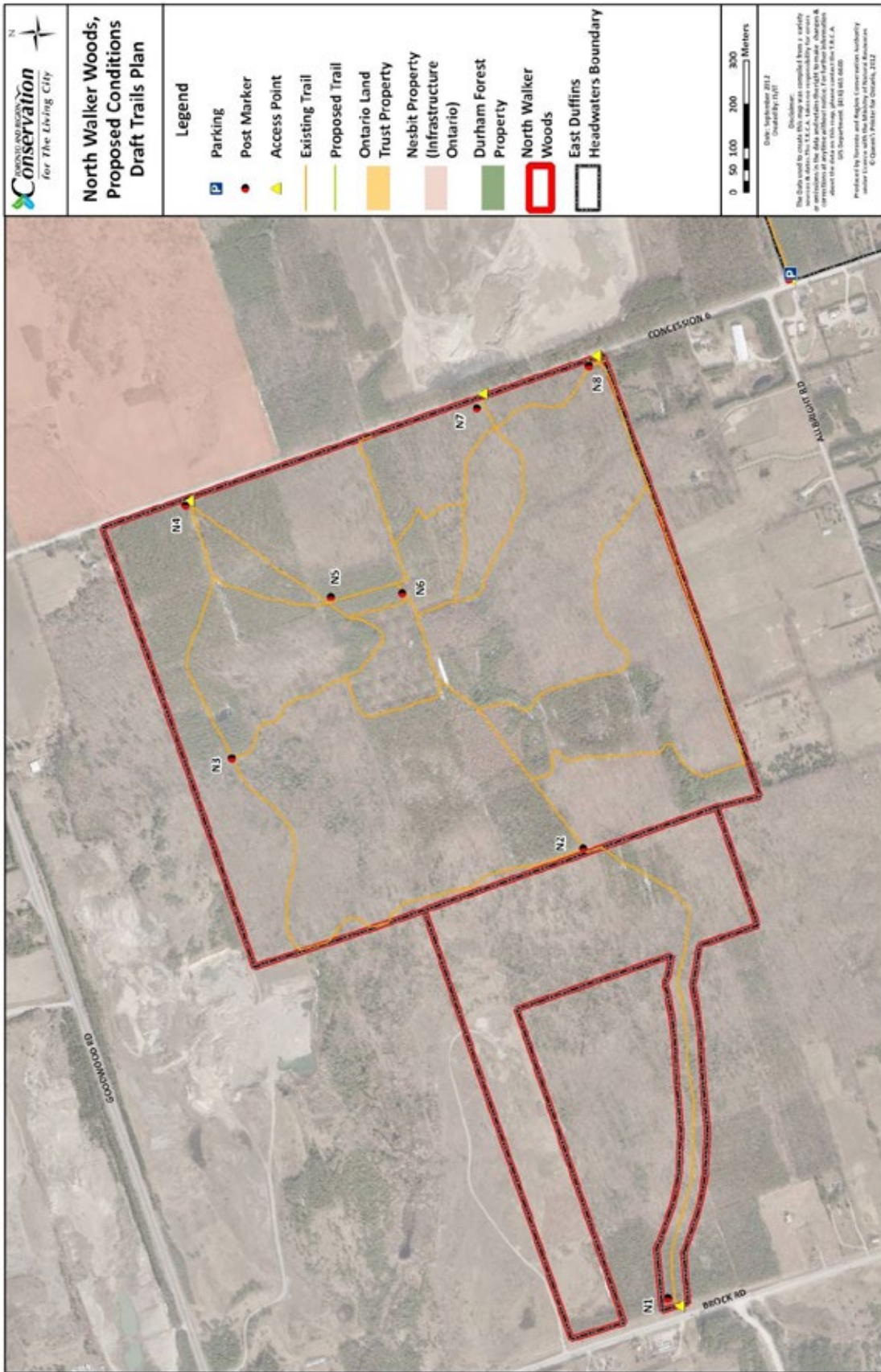




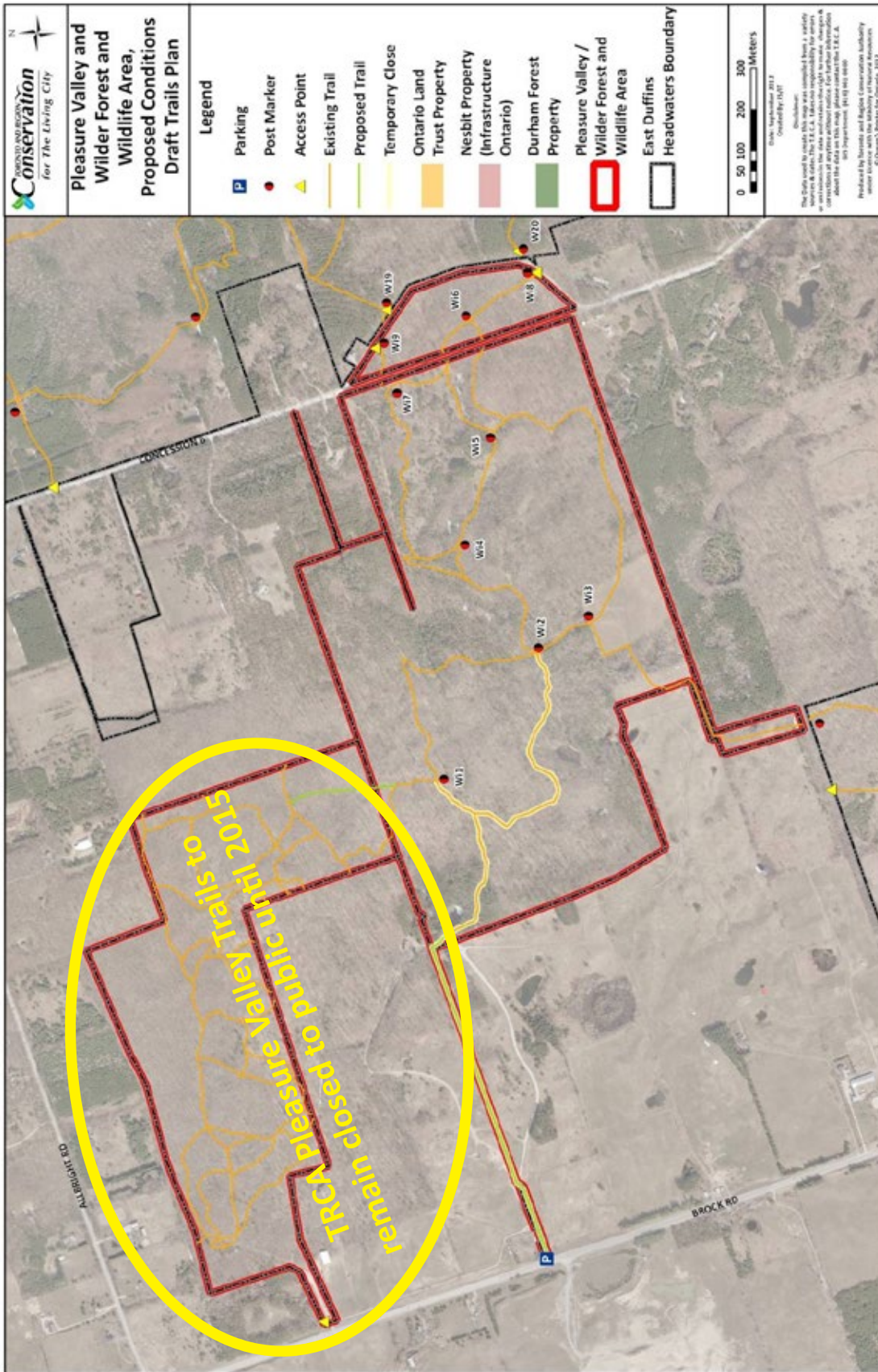
Map 5.8 Trail Plan, TRCA Dagmar Existing Conditions



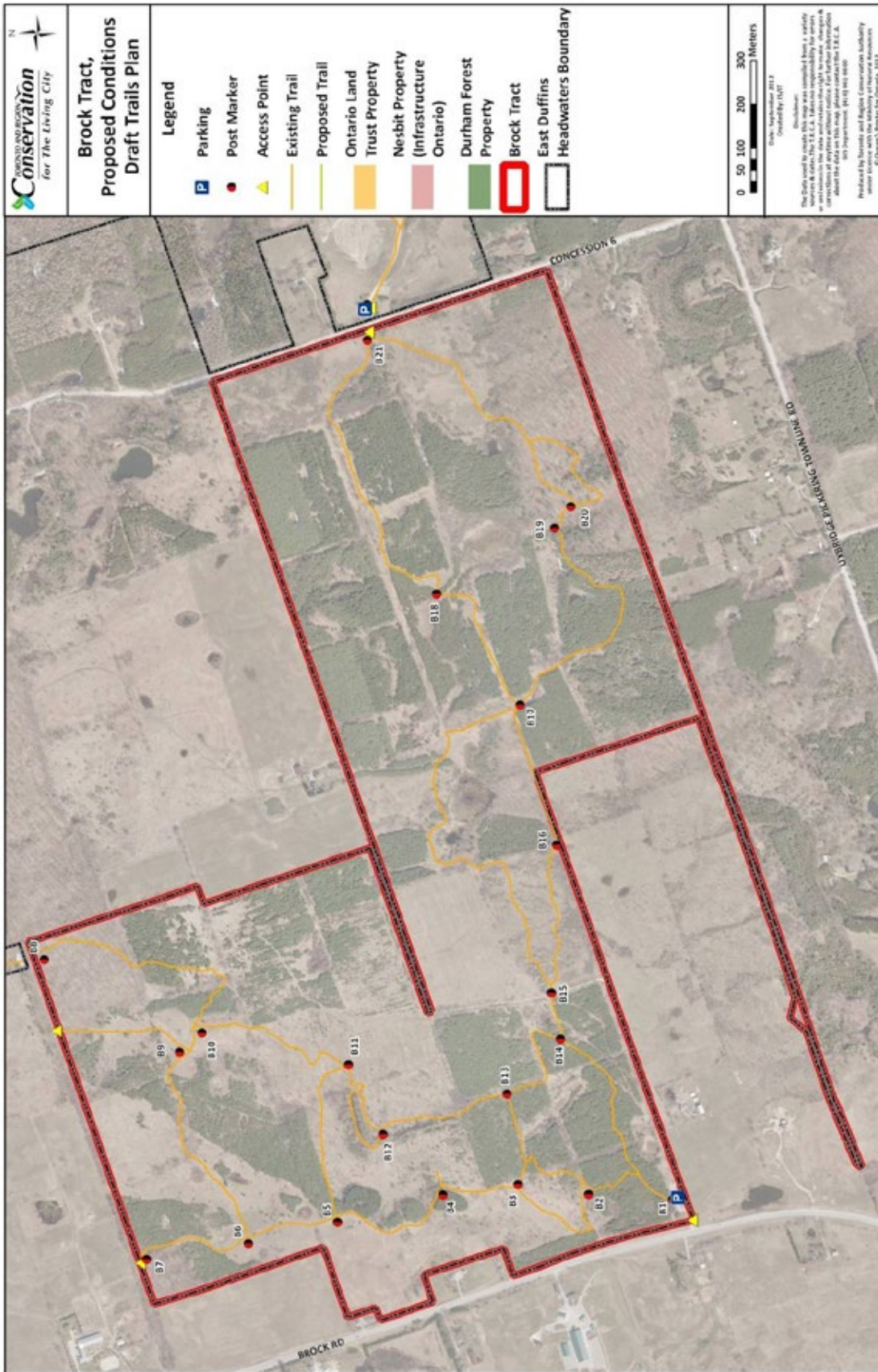
Map 5.9 Trail Plan, EDH Proposed Conditions



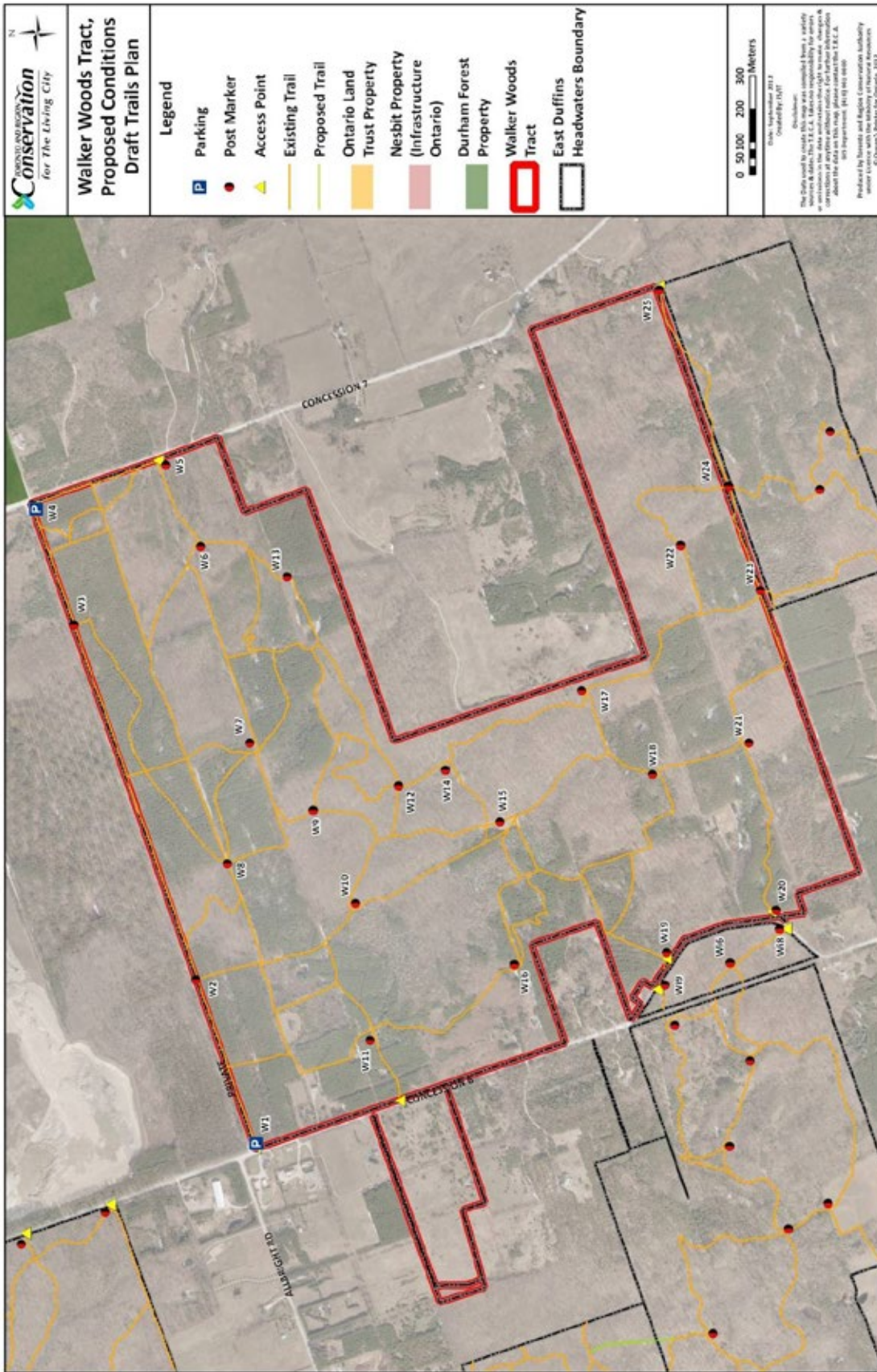
Map 5.10 Trail Plan, North Walker Woods Proposed Conditions



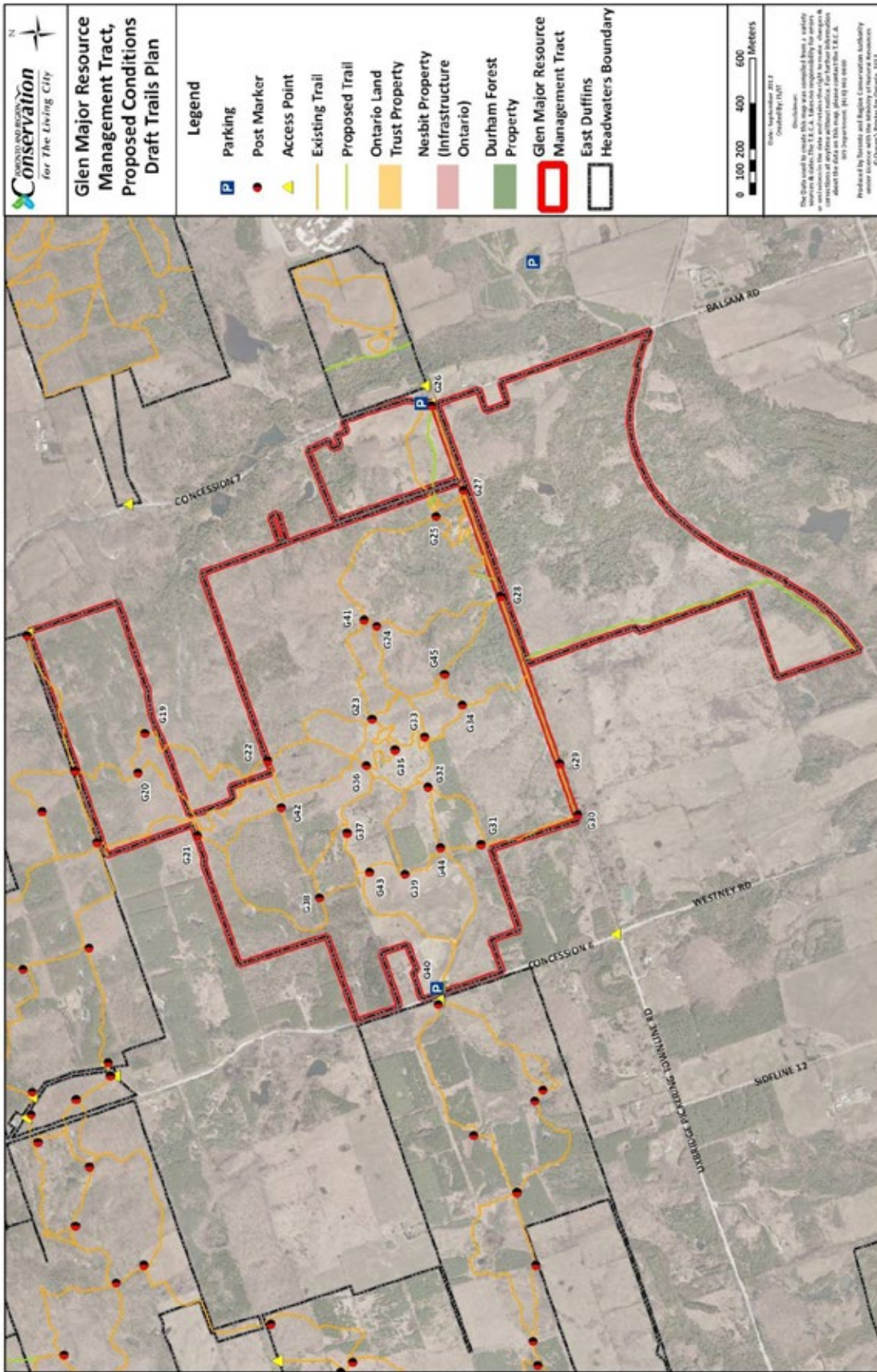
Map 5.11 Trail Plan, Pleasure Valley and Wilder FWP Proposed Conditions



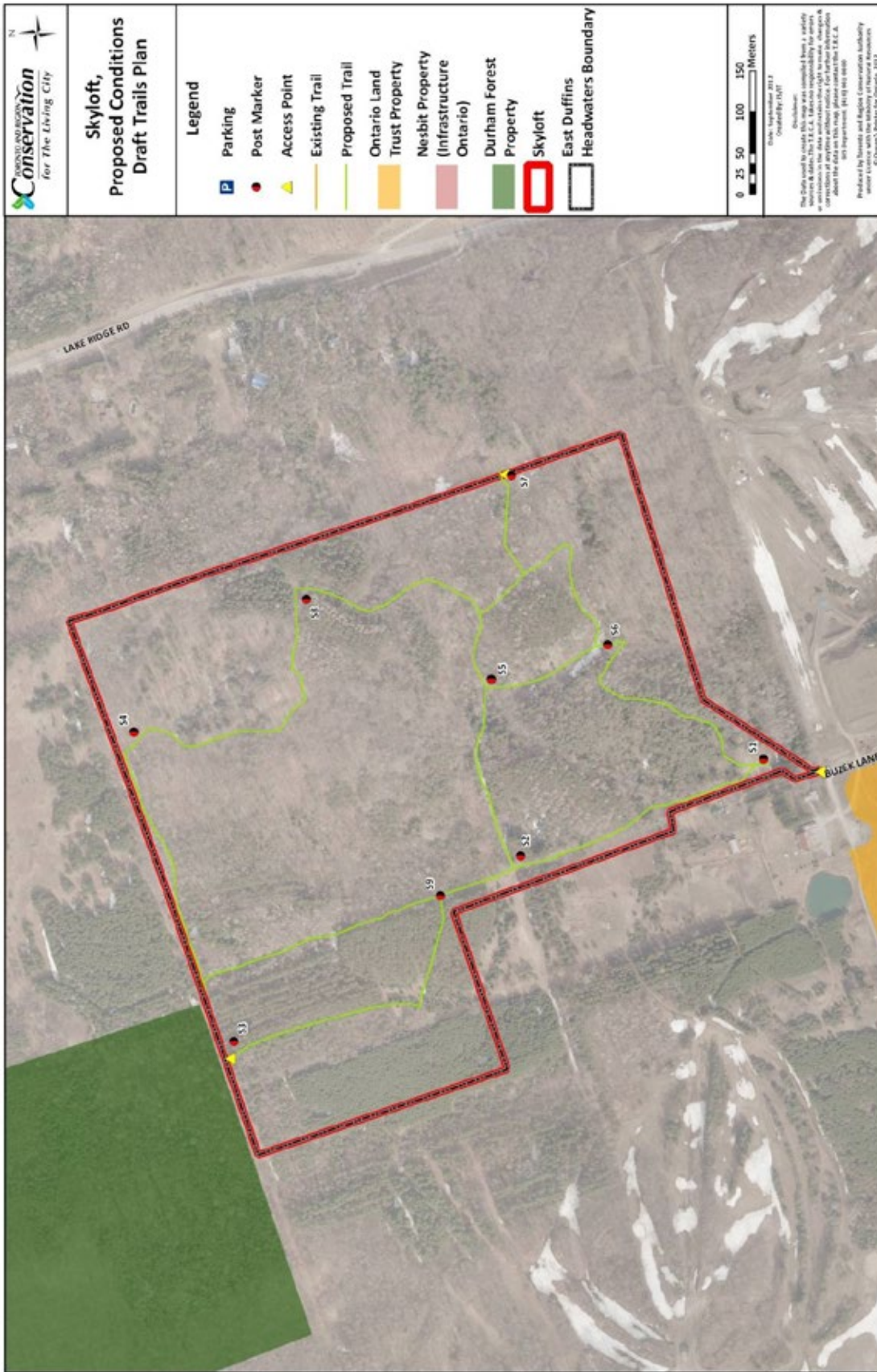
Map 5.12 Trail Plan, Brock Tract Proposed Conditions



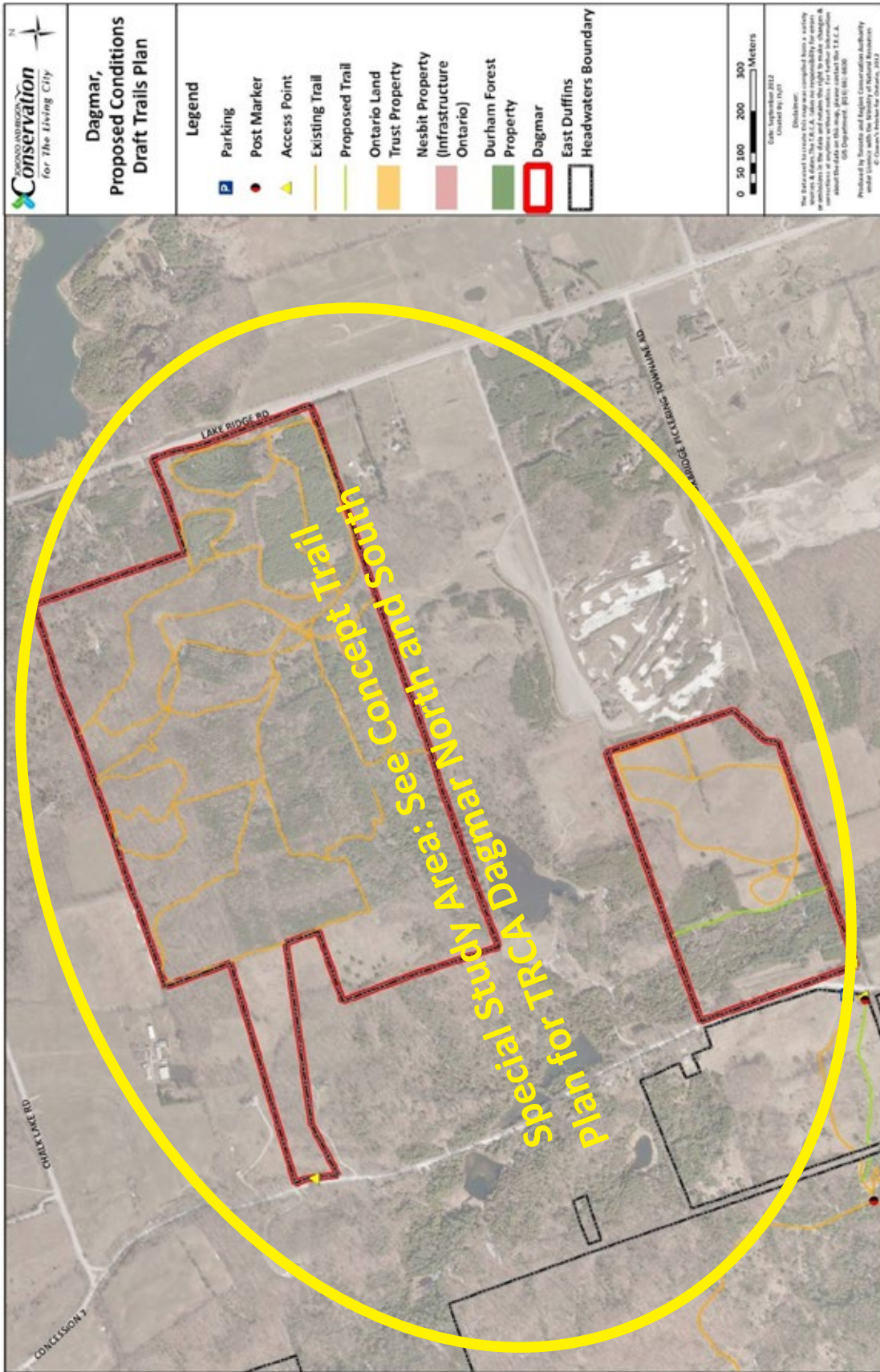
Map 5.13 Trail Plan, Walker Woods Proposed Conditions



Map 5.14 Trail Plan, Glen Major Proposed Conditions



Map 5.15 Trail Plan, TRCA Skyloft Proposed Conditions



Map 5.16 Trail Plan, TRCA Dagmar Proposed Conditions



Map 5.17 Proposed Conditions, Infrastructure Ontario Nesbit Property



## 6.0 IMPLEMENTATION

This chapter outlines the implementation of the EDH Management Plan Update. The implementation plan has been split into three five-year phases to help organize the implementation of the various recommendations and deliverables set out in the document. Implementation of the Management Plan Update will be subject to further analysis, detailed plans and funding availability.

## 6.1 PLAN IMPLEMENTATION SCHEDULE

The implementation of the EDH Management Plan Update will require collaboration between TRCA, the Township of Uxbridge, the City of Pickering, the EDH Stewardship Committee and new project partners. Plan implementation includes ongoing management actions to keep the properties operational (Table 6.1), and implementation actions for the Site Securement and Protection Plan (Table 6.2), the Trail Plan (Table 6.3), restoration opportunities (Table 6.4), and natural and cultural heritage stewardship (Table 6.5).

## 6.2 OPERATIONS SCHEDULE

Table 6.1 summarizes key deliverables for the ongoing operation of the EDH properties. This table represents the bare minimum required to keep the properties safe for public access and to ensure that natural and cultural heritage features will be protected.

TABLE 6.1 EDH MANAGEMENT PLAN IMPLEMENTATION SCHEDULE: OPERATION					
Year 1-5 (2013-2017)		Year 6-10 (2018-2022)		Year 11-15 (2023-2027)	
Action	Project Lead	Action	Project Lead	Action	Project Lead
General property maintenance	Conservation Lands	General property maintenance	Conservation Lands	General property maintenance	Conservation Lands
Trail hazard tree monitoring (50%/year)	Conservation Lands	Trail hazard tree monitoring (50%/year)	Conservation Lands	Trail hazard tree monitoring (50%/year)	Conservation Lands
Trail mowing	Conservation Lands	Trail mowing	Conservation Lands	Trail mowing	Conservation Lands
Trail maintenance	Conservation Lands	Trail maintenance	Conservation Lands	Trail maintenance	Conservation Lands
Community outreach	Conservation Lands	Community outreach	Conservation Lands	Community outreach	Conservation Lands
Natural heritage monitoring*	Ecology	Natural heritage monitoring	Ecology	Natural heritage monitoring	Ecology
Invasive management†	Conservation Lands	Invasive management†	Conservation Lands	Invasive management†	Conservation Lands

\*Timing is funding dependant

†Pending completion of invasives control plan

‡Pending management agreement

In this schedule, general property maintenance refers to the ongoing garbage cleanup, parking lot maintenance, responding to neighbour concerns and the resolution of other property issues that might arise in the day-to-day management of the properties.

Hazard tree monitoring is to be completed to the standard set in the *Operations Procedures for Managing Hazard Trees (2006)*. To be compliant with this policy, all trails must be assessed by competent hazard tree assessors at least once every two years.

Trail mowing will be undertaken to ensure that existing trail corridors within open areas do not overgrow.

Trail maintenance refers to minor trail works, such as clearing or repairs on existing trail tread.

Community outreach refers to ongoing public facilitation and engagement by TRCA and the EDH Stewardship Committee.

Natural heritage monitoring refers to the ongoing collection of terrestrial natural heritage information to ensure that TRCA's natural heritage databases are up to date and accurate.

Invasive management refers to works to control the spread of non-native and invasive vascular plants.

The majority of these actions should be financed through existing funding for the properties. In the case of natural heritage monitoring, no funding structure currently exists for a comprehensive data collection strategy beyond regional monitoring programs. Until support for such a program is secured, additional natural heritage reporting will be done on a project specific basis to ensure that implementation projects have as little impact as possible on the natural environment. To ensure that resources are most efficiently directed towards the treatment of terrestrial invasives, a key management recommendation is to develop a property specific invasive control plan. Invasive management should be done in accordance with this forthcoming control plan.

### 6.3 SITE SECUREMENT SCHEDULE

Table 6.2 summarizes key deliverables to fulfill the site securement needs of the EDH properties.

TABLE 6.2 EDH MANAGEMENT PLAN IMPLEMENTATION SCHEDULE: SITE SECUREMENT AND PROTECTION PLAN					
Year 1-5 (2013-2017)		Year 6-10 (2018-2022)		Year 11-15 (2023-2027)	
Action	Project Lead	Action	Project Lead	Action	Project Lead
<b>BOUNDARY SECUREMENT</b>					
Brock Tract extension fencing	Conservation Lands/ Enforcement	Boundary audit	Conservation Lands	Boundary audit	Conservation Lands
Ongoing fencing repair/ installation	Conservation Lands	Ongoing fencing repair/ installation	Conservation Lands	Ongoing fencing repair/ installation	Conservation Lands
Update boundary signage	Conservation Lands	Update boundary signage	Conservation Lands	Update boundary signage	Conservation Lands
Encroachment resolution	Conservation Lands/ Enforcement	Encroachment resolution	Conservation Lands/ Enforcement	Encroachment resolution	Conservation Lands/ Enforcement
<b>PUBLIC SAFETY</b>					
Adopt emergency management plan	Conservation Lands	Secure/ remove Wilder cabin*	Eastville	Pleasure Valley rental removal	Conservation Lands/Eastville
Secure Pleasure Valley sugar shack	Conservation Lands	Pleasure Valley rental building assessment	Conservation Lands/ Eastville		

Secure Walker Woods historical cistern	Conservation Lands				
Access point gate improvements	Conservation Lands				
Remove Purvis cottage*‡	Eastville				
Conduct heritage assessment of Wilder cabin	Conservation Lands/ Cultural Heritage				
Conduct assessment of TRCA Field Shop	Conservation Lands/ Property				
<b>ENVIRONMENTAL HEALTH</b>					
Conduct risk assessment of the Walker historical dump	Conservation Lands/ Restoration Services				
<b>BUILDING IMPROVEMENTS</b>					
Walker drying shed improvements	Conservation Lands				
Develop Walker mill request for proposals	Conservation Lands				

\*Timing is funding dependant

†Pending Completion of Invasive Control Plan

‡Pending Management Agreement

A key component of the site securement plan is the inventory and audit program. Given that a property boundary and trails audit has been undertaken to inform the development of the EDH Management Plan Update, the next comprehensive boundary audit is scheduled five years following plan approval. If additional funds become available, an increased inventory and audit presence is desired. Optimally, an annual boundary and trails audit would ensure that site securement and safety issues are being brought to the attention of TRCA in a timely fashion.

At present some 18,000 m of existing boundary fence is in “fair” to “poor” quality and should be repaired. Furthermore, additional high priority fencing projects to ensure the integrity of the properties will be required in the near future. The Brock Tract extension has particularly high priority fencing needs and should be a lead funding priority. As fencing is repaired, boundary signage should also be inspected and updated accordingly to mark the EDH properties as TRCA-managed land. Given the substantial cost of fencing, it is unlikely that the entirety of the required fencing work can be completed within the first five years of plan implementation but rather will be implemented as funding becomes available.

Encroachments will be prioritized and resolved based on their severity and their risk to public safety and the natural and cultural heritage features on-site. The historical Walker farm dump has been identified for resolution and an initial risk assessment should be done for the site.

From a public safety perspective, the highest priority action is to update and adopt the emergency management plan for EDH properties and to ensure it is effectively coordinated with emergency response staff and neighbouring Conservation Authorities. Further public safety actions focus on securing existing buildings or structures and ensuring that all access gates are accessible to the extent possible for emergency vehicles.

There are a number of building improvements that are highly desired by both TRCA and the community. Most notably, there is a need to improve the historic Walker sawmill and surrounding structures. Improvements to historic structures can require significant funding resources, so a request for proposals should be developed to explore options and budgets for the remediation of these structures. Additionally, some improvements are required for the TRCA Field Shop.

## 6.4 TRAIL PLAN SCHEDULE

One of the largest components of the EDH Management Plan Update is the updated Trail Plan. The implementation schedule to support this plan can be seen in Table 6.3.

TABLE 6.3 EDH MANAGEMENT PLAN IMPLEMENTATION SCHEDULE: TRAIL PLAN					
Year 1-5 (2013-2017)		Year 6-10 (2018-2022)		Year 11-15 (2023-2027)	
Action	Project Lead	Action	Project Lead	Action	Project Lead
<b>SIGNAGE AND COMMUNICATION MATERIALS</b>					
Install updated signage	Conservation Lands	Update and print trail guide	Conservation Lands/ Marketing	Update and print trail guide	Conservation Lands/Marketing
Update and print trail guide	Conservation Lands/ Marketing				
<b>TRAIL CONNECTIONS</b>					
Durham Forest to Skyloft connection	Conservation Lands/ Property				
Tannenbaum Lands connection	Conservation Lands/ Property				
Skyloft to Dagmar	Conservation Lands/ Property				
Dagmar North to Dagmar South	Conservation Lands/ Property				
Re-confirm Oak Ridges Trail and Trans Canada Trail routing	Conservation Lands/ Property				
<b>TRAIL IMPROVEMENTS</b>					
Brock to Wilder connection	Conservation Lands	NWW parking lot* 6th Concession	Conservation Lands	Pleasure Valley parking lot *	Conservation Lands

Road Allowance maintenance	Conservation Lands	Tannenbaum Lands trail‡	Conservation Lands	Pleasure Valley accessible trail*	Conservation Lands
Glen Major proposed trail	Conservation Lands	Develop interpretive trail (CH)*	Conservation Lands/ Cultural Heritage	Pleasure Valley Trail Conservation Landsosures*	Conservation Lands
Dagmar North and South Secondary Trail Plan Concept	Conservation Lands	Develop Walker Woods accessible trail*	Conservation Lands	Priority trail areas	Conservation Lands
Cycling focused trails	Conservation Lands	Priority trail areas	Conservation Lands		
Develop interpretive trail (NH)*	Conservation Lands/ Ecology				
Brock parking lot (NWW)*	Conservation Lands				
Glen Major parking lot expansion*	Conservation Lands				
Priority trail areas	Conservation Lands				

\*Timing is funding dependant

†Pending completion of invasive control plan

‡Pending management agreement

Of key importance is the securement of important trail connections both between the EDH properties and to neighbouring lands via inter-regional trails. Given the significant trail system changes since the last trail guide was developed, another key priority is to update the mapping, trail guides and signage for the properties. Doing so will improve wayfinding and safety and also increase the public profile of the properties. The plan proposes an update of the trail guide in the first five years of implementation, and then every five years or as needed.

Key trail improvements are designed to ensure public safety and create a continuous EDH trail system. The connections between the Brock Tract and the Wilder Forest and Wildlife Area, the proposed Glen Major trail head trail, and a trail connection to the TRCA Dagmar properties are all of critical importance.

The Trail Plan proposes some additional parking lots to provide safe access to the EDH properties. While timing is dependent on available funding, it is proposed that the Glen Major parking lot expansion take place within the first five years of implementation, as the existing lot is regularly at capacity.

A natural heritage interpretive trail and cultural heritage interpretive trail are being proposed within EDH. The natural heritage interpretive trail should be



Restoration Efforts in Glen Major, 2003

implemented in coordination with the EDH Stewardship Committee as soon as funding is available to do so. Timing for the cultural heritage interpretive trail should be coordinated to coincide with improvements to the Walker mill and surrounding structures.

Partnerships with the neighbouring municipalities should be developed to provide support prior to conducting trail improvements on the road allowances leading into EDH.

Working with TRCA, DMBA has developed a mountain biking focused secondary Trail Plan for the Dagmar properties. This secondary plan has its own implementation schedule beginning in the first year of Management Plan Update implementation. For details on timing and projected costs of this secondary plan, refer to the TRCA Dagmar Secondary Plan Concept in Appendix A.

## 6.5 RESTORATION OPPORTUNITIES

Table 6.4 shows the implementation schedule for identified restoration opportunities in EDH. These initiatives should be implemented as soon as funding is available.

TABLE 6.4 EDH MANAGEMENT PLAN UPDATE IMPLEMENTATION SCHEDULE: RESTORATION OPPORTUNITIES					
Year 1-5 (2013-2017)		Year 6-10 (2018-2022)		Year 11-15 (2023-2027)	
Action	Project Lead	Action	Project Lead	Action	Project Lead
Develop restoration plan for Uxbridge lands (North Walker Woods) aggregate site and begin implementation*	Conservation Lands/ Restoration Services	Implement restoration plan for Uxbridge lands (North Walker Woods) aggregate site*	Conservation Lands/ Restoration Services		
Remediate failed Uxbridge-Pickering Townline culverts	Restoration Services/ Conservation Lands				
Investigate and complete implementation of the West Glen Major project	Restoration Services/ Conservation Lands				

\*Timing is funding dependant

†Pending completion of invasive control plan

‡Pending management agreement

A key priority area is the Uxbridge lands (North Walker Woods) former aggregate site.

Remediation of the failed Uxbridge-Pickering Townline culverts should be conducted alongside any trail improvements in the area and pending partnerships with the local municipalities.

The continued implementation of the West Glen Major restoration project should be completed pending funding and review of works already completed.

Forestry work is to be completed as per the direction of the *TRCA Managed Forest Plan (1998)*.

## 6.6 NATURAL HERITAGE, CULTURAL HERITAGE AND STEWARDSHIP

Table 6.5 summarizes key deliverables to achieve the key natural heritage, cultural heritage, and stewardship objectives of the EDH properties.

TABLE 6.5 EDH MANAGEMENT PLAN UPDATE IMPLEMENTATION SCHEDULE: NATURAL HERITAGE, CULTURAL HERITAGE AND STEWARDSHIP					
Year 1-5 (2013-2017)		Year 6-10 (2018-2022)		Year 11-15 (2023-2027)	
Action	Project Lead	Action	Project Lead	Action	Project Lead
Develop Property Specific Invasive Species Management Strategy	Restoration Services/ Conservation Lands/ Ecology	Implement Invasive Species Management Strategy	Restoration Services/ Conservation Lands/ Ecology	Implement Invasive Species Management Strategy	Restoration Services/ Conservation Lands/ Ecology
Necessary approvals	Ecology	Necessary Approvals	Ecology	Necessary approvals	Ecology
Necessary approvals	Cultural Heritage	Necessary Approvals	Cultural Heritage	Necessary approvals	Cultural Heritage
Develop school and community group focused stewardship events in the EDH area	Stewardship	Continue implementation of community group focused stewardship events in the EDH area	Stewardship	Continue implementation of community group focused stewardship events in the EDH area	Stewardship



Yellow Trout Lily in EDH, 2011

The priority, from a natural heritage perspective, is to develop a property-specific invasive species management strategy for EDH. This key management action is needed prior to any broader invasive management projects taking place on the properties. Another key implementation priority for both natural and cultural heritage actions is to ensure all necessary natural and cultural heritage approvals are attained prior to the implementation of new projects. Natural and cultural heritage expertise is also desirable during the design and development of interpretive trails or features on-site. Regularly scheduled engagement to involve staff and partners with natural and cultural heritage knowledge will be an important part of property management.

TRCA has been conducting various stewardship initiatives within EDH with mixed success. Moving forward, TRCA stewardship actions will focus on developing school and community group focused events within the EDH area and supporting the EDH Stewardship Committee.

## 6.7 SAFETY AND SECURITY

As part of the planning process for the EDH Management Plan Update, consultation was initiated with the Durham Regional Police Service through its community relations officer. Given the natural landscape of the properties, emergency access for ambulance, fire and police vehicles is limited. As a result, special considerations are required:

- Develop and adopt an EDH emergency management plan with involvement from local and neighbouring emergency service providers.
- Enhance the trail wayfinding system, by increasing the number of wayfinding signs and post markers along the trails, and clearly communicate this information to the public and appropriate emergency responders.
- Integrate the trail wayfinding system into the emergency response system of the fire, police and ambulance departments.
- Install fully integrated maps at all primary and secondary trail heads, depicting all named trails and the location of post markers along each trail.
- Install vehicle restrictions at all trail heads to prevent non-permitted motorized access.
- As the intensity of public use increases at EDH, consider equipping a public first aid station with an AED (automated external defibrillator) device at major parking lots.

## 6.8 PARTNERSHIP OPPORTUNITIES

Partnerships have been integral to the development of the EDH Management Plan Update, and numerous committees and organizations have assisted TRCA in this regard. Through the Management Plan Update planning process, TRCA has consulted with partners, including the Township of Uxbridge, the City of Pickering, the Region of Durham, the community groups that made up the Public Advisory Committee and several Indigenous groups. TRCA values the progress and accomplishments achieved through the efforts of these parties and looks toward maintaining existing relationships, while establishing new ones, to help achieve the vision for EDH.

Continued collaboration and cost-sharing among these partners will be important for implementing the recommendations of the Management Plan Update. As noted within the Trail Plan, key partnerships are needed with local municipalities to ensure support

for maintaining infrastructure that exists within road allowance properties. This includes both parking areas and trails.

The unique natural and cultural heritage features of EDH make the properties a destination and potential tourism draw within Durham Region. EDH's location is well suited to serve the recreational and natural heritage appreciation needs of current residents, as well as future communities planned in proximity to the properties. Additional partnerships to further expand these benefits should be explored.



Trail Building Event in Partnership With DMBA, 2006

### 6.8.1 EDH Stewardship Committee

The EDH Management Plan Update contains a variety of detailed management recommendations that were established with the assistance and support of the Public Advisory Committee, which going forward will be known as the EDH Stewardship Committee. The EDH Stewardship Committee has a long history of assisting TRCA with the management of existing trails and other issues on the EDH properties through its past iteration as the Glen Major and Walker Woods Stewardship Committee. TRCA will continue to involve the EDH Stewardship Committee in the implementation of the various EDH Management Plan Update recommendations, including those dealing with trails, education and communications. A focused Tracks Subcommittee of the EDH Stewardship Committee will deal with trail-specific issues. TRCA would also seek the Committee's assistance in implementing site development, maintenance, environmental protection and restoration activities. Finally, the Committee could also assist in the monitoring of environmental and public use indicators and of plan implementation.

The Management Plan Update recommendations provide a basic framework upon which the EDH Stewardship Committee can continue to operate. While the key recommendations are outlined here, it is anticipated that the Committee will undertake a review of the Management Plan Update and its recommendations on a regular and on-going basis. Some responsibilities of the EDH Stewardship Committee may include:

- Review the Management Plan Update and establish priority actions for implementation as necessary.
- Assist in the development and implementation of detailed Trail Plans and develop a trail guide for users.
- Participate in the Trail Captain stewardship program for the properties.
- Assist in developing newsletter(s) and a communications plan to raise awareness and inform surrounding communities about the area.
- Educate private landowners in and around the EDH regarding stewardship practices.
- Develop educational resources and tools for private landowners and visitors.
- Monitor the trails for invasive plant species and noxious weeds and prevent their spread through barriers and other eradication techniques.
- Organize celebration events to increase public awareness.
- Assist TRCA in implementing the Terrestrial Natural Heritage Monitoring Program.
- Assist in securing financial and in-kind resources to undertake work.
- Communicate the activities of the EDH Stewardship Committee to its respective member organizations.
- Encourage area residents to undertake environmental improvements and restoration projects on their properties to help expand the ecological benefits of EDH.

## 6.8.2 Agency and Municipal Stewardship

The natural, cultural and recreational resources that exist in EDH provide benefits beyond the study area; these resources extend into, and contribute to, the surrounding local and regional landscape. Therefore, integration with broader community planning efforts was considered throughout the management planning process. The Management Plan Update is compatible with recommendations and opportunities identified in municipal and government agency documents, so that implementation of the Management Plan Update can be supported by these agencies.

There are great opportunities to connect the recommendations of the EDH Management Plan Update to municipal goals and objectives, and continued communication with the Town of Uxbridge, the City of Pickering and the Region of Durham will be crucial to finding shared opportunities and efficiencies.

To support TRCA policies, municipalities and government agencies should be encouraged to have regard for the following recommendations when considering new community design:

- Protect, restore and enhance as many natural open spaces as possible to maintain terrestrial natural habitat connectivity and interior habitats.
- Create publicly accessible trail systems that will connect communities to the regional trail network.
- Promote private land stewardship that increases awareness about best management practices and creates opportunities to engage landowners in protecting and enhancing the EDH property complex and its valuable resources.

## 6.9 ENDORSEMENT AND MAINTENANCE OF THE MANAGEMENT PLAN UPDATE

As a partnership between the Township of Uxbridge, the City of Pickering, the Region of Durham, the EDH Stewardship Committee and the community, this Management Plan Update required endorsement from various groups, including municipalities and the TRCA Board. The public, local community and EDH users were informed and consulted during the Management Plan Update process through newsletters, questionnaires, open houses and public meetings. Their concerns, comments and suggestions were heard and integrated into the plan where appropriate.

Both the Project Steering Committee and the EDH Stewardship Committee (during its role as the Public Advisory Committee) brought many interests, issues and insights from the broader community to the forefront of the planning process, and their comments and suggestions were also integrated into this plan where appropriate.

TRCA, local municipalities and the new EDH Stewardship Committee will continue to work together towards implementing, maintaining and adapting the EDH Management Plan Update.

## 6.10 PLAN REVIEW AND AMENDMENT

With the support of all the parties engaged in the development of the EDH Management Plan Update, the plan will undergo review as needed. If major revisions are necessary to reflect changing environmental, social or economic conditions, they will only be made after consultation with affected groups and individuals. Revisions to the plan will be consistent with the original stated vision, goal and objectives of the EDH Management Plan Update, as well as *A Watershed Plan for Duffins Creek and Carruthers Creek*.

The Management Plan Update identifies public use zones and trails, with appropriate trail uses outlined in the Trail Plan. Any additional proposed uses will be screened and assessed accordingly. The screening process for specific public uses will ensure that all proposed uses, facilities and landscape changes are thoroughly examined and designed to minimize disruption to the properties and protect, enhance or restore the natural values of this area.

## 6.11 CONCLUSION

Since 2008, TRCA and its project partners have been working diligently to develop the EDH Management Plan Update and its recommendations. The implementation of these recommendations will not only provide appropriate protection to the natural and cultural features of the site, but will also facilitate exciting recreational opportunities for current and future users. Successful implementation of this plan will require effective partnerships and cooperation between all stakeholders. This plan will guide EDH's future as a successful model for balancing conservation values and recreational experiences within critical headwaters greenspace.



Walker Woods, 2016

## **7.0 APPENDIX A**

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### **Secondary Trail Plan Concept for TRCA Dagmar North and South**

## A.1 SECONDARY TRAIL PLAN CONCEPT FOR TRCA DAGMAR NORTH AND SOUTH

This plan has been developed in partnership with the Durham Mountain Biking Association (DMBA), a non-profit organization with over 465 members representing the mountain biking community in Durham Region.

## A.2 INTRODUCTION

### A.2.1 Dagmar North Trail History and Use

Dagmar North has a network of approximately 11 km of double-track trails historically used for logging, hiking, cycling and cross-country skiing. The property is currently leased to the Dagmar Ski Resort for their cross-country ski operations for six months during the winter. In the 1990s, a supplementary network of approximately 11 km of single-track trails was created by local mountain bike trail builders in cooperation with Dagmar Ski Resort and TRCA, for recreational mountain biking and mountain bike events.

The Dagmar North property became attractive to cyclists as it offered a well planned and constructed network of trails offering a range of riding experiences for beginner, intermediate and advanced riders. It was particularly attractive to intermediate and advanced riders in Uxbridge Township as the majority of single-track trails were intermediate to advanced and presented an interesting and challenging riding experience. Chico Racing, an Uxbridge-based mountain bike event organizer, hosted several large cycling events in the 1990s and early 2000s along with a small weekly series during the summers from 1998 through 2005. These events were organized in cooperation with Dagmar Ski Resort and TRCA,.

The Dagmar Ski Resort's parking lot has historically served as the primary trail head for the Dagmar North tract mountain biking trails. The cycling events, along with casual hiking and riding access to Dagmar North in spring/summer/fall were facilitated by Dagmar Ski Resort, which allowed parking in their cross-country ski lot and access across a strip of their property to the trails on TRCA's land. However, in 1996 the Dagmar Ski Resort came under new management and spring/summer/fall access through the Dagmar Ski Resort parking lot was withdrawn. Subsequently, casual use by cyclists, hikers, etc. was no longer possible and cycling events were suspended. In the ensuing years the double-track trails have been

actively used in the winter for Dagmar's cross-country ski operations. However, non-winter use has been minimal so the single track trails have been more or less reclaimed by nature due to lack of maintenance and use.

### A.2.2 Dagmar South

Dagmar South is a small property adjacent to the Glen Major parking lot (Three Rocks). The site is located on the east side of 7<sup>th</sup> Concession Road, extending east to about the Dagmar Ski Resort property. It currently includes a few kilometres of wide cross-country skiing trails and hosts a small number of casual hikers and skiers per year.

### A.2.3 Project Description

This Secondary Trail Plan Concept is specifically created for the two Dagmar properties as they are being reopened to the public for spring, summer and fall use in 2012 after six years of winter-only use. This plan is consistent with the over-arching EDH Management Plan Update and the associated Trail Plan. The vision, objectives and management principles of the EDH Trail Plan provide the foundation for this secondary plan, the forthcoming detailed trail designs, and their subsequent implementation. The EDH Trail Plan objectives are worth restating here as they provide strategic planning guidance for this secondary plan:

1. Develop and manage the trails with an "environment first" approach.
2. Implement best practices for construction and management of trails.
3. Improve user experience while decreasing user conflict.
4. Develop a balance of trail uses that allow all user groups to enjoy the EDH.

This Dagmar Secondary Trail Plan Concept is designed to accomplish certain specific objectives of the EDH Management Plan Update and Trail Plan:

1. Increase trail connectivity by adding a north/south route through the Dagmar properties, as well as links into these properties.
2. Reduce stress on the broader EDH trail system by shifting trail cycling traffic into the Dagmar properties.
3. Reduce user conflict on the trails in EDH by creating a cycling preferred area in the east to draw cyclists away from the more heavily traveled multi-use trails in the centre of EDH.

4. Restore and improve user experience for the largest EDH user group (i.e. mountain bike riders) by replacing the historical technical single-track trails lost since 2006.

### A.2.4 Secondary Trail Plan Goal, Objectives, Strategies and Benefits

#### Goal:

Develop Dagmar North as a cycling preferred area in EDH that is also available to hikers, trail runners and equestrians, with connections to neighbouring EDH properties, available for public use in the snow-free seasons.

#### Objectives:

- Provide trail connections and riding/hiking options between the Durham Regional Forest and TRCA's Skyloft property through Dagmar North to the Glen Major parking lot and trail head (Three Rocks) and Glen Major property to the southwest.
- Provide a varied and interesting cycling experience, with a focus on intermediate and advanced trails.
- Attract intermediate and advanced mountain bike traffic away from the central portions of EDH to the Dagmar properties.

#### Strategies:

- Utilize the existing Class 2 and 3 double-track trails as a backbone trail network and add a variety of smaller trails to this framework.
- Plan, design and build a network of Class 3 and 4 sustainable single-track trails purpose-built for mountain biking.
- Engage the mountain biking community in the design, building and maintenance of the new trails by utilizing DMBA's skills, organization and enthusiastic volunteer labour base.

#### Benefits:

- Draw cycling traffic away from the central portions of EDH.
- Reduce user conflict in the core of EDH.
- Reduce incidental wear on trails within the core of EDH.

- Develop a strong, positive partnership with the mountain biking community and benefit from the knowledge and resources of this large user group.
- Develop a trail network that could support revenue generating events.

### A.2.5 A Partnership Process

TRCA's partnership with DMBA includes both the development and implementation of the Dagmar Secondary Trail Plan Concept. DMBA brings significant knowledge, expertise, and capacity to this partnership, including:

- A strong understanding of the nature of mountain biking and the cycling community's desires and behaviors
- Extensive knowledge and experience in designing and building sustainable trails;
- An ability to tap into the skills, resources and enthusiasm of the community
- An ability to engage and direct a strong, skilled volunteer labor force for the trail building phases
- Ongoing support for trail monitoring and maintenance

DMBA will lead the Trail Planning and development project for the Dagmar properties, working in close consultation and cooperation with TRCA. DMBA will also provide the bulk of human resources and skills to plan, design, build, and maintain the new trails.

## A.2.6 Trail Development Responsibilities

The DMBA team agrees to understand and respect the goals and objectives of the EDH Management Plan Update, as well as the Trail Plan. DMBA also agrees to follow TRCA processes, work cooperatively with TRCA staff, and harness the full range of DMBA's expertise, resources and volunteers.

TRCA will support the Trail Planning and development process by providing information and guidance, fundraising capacity (e.g., grant writing, and expertise and resources as appropriate.

### Recommendations:

Ar 1. That DMBA and TRCA develop an agreement for the detailed design, implementation and ongoing maintenance of the Dagmar North trails.

The following represents a preliminary description of the relationship between TRCA and DMBA in the management of the Dagmar North trails:

### DMBA leads the trail planning and construction phases, including:

- Consultation with TRCA regarding Trail Planning and construction.
- Developing annual detailed Trail Plans for any proposed trails.
- Marking preliminary trail corridors and providing TRCA with GPS information for these alignments.
- Coordination with TRCA for site visits to review preliminary trail corridors.
- Marking detailed trail lines prior to construction and providing TRCA with updated GPS information if any changes from preliminary alignments.
- Training and coordination of volunteer labour for construction and finishing of hand-built treads to International Mountain Biking Association (IMBA) and TRCA trail standards.
- Providing necessary trail building hand tools for volunteers.
- In partnership with TRCA, coordination of contracted trail builds.
- Providing funds required for trail building.
- In partnership with TRCA, securement of grant money for trail projects developed under this plan.

### TRCA will support and supervise the trail planning and construction phases, including:

- Acquisition of adequate access corridors and parking lots to the Dagmar North lands.
- Coordinating in a timely manner all necessary internal and external approvals for trail projects developed under this plan.
- Addressing hazard trees in accordance with the TRCA Operational Procedures for Managing Hazard Trees;
- Undertaking boundary securement.
- In partnership with DMBA, coordinating trail and area signage as required.
- Partnering with DMBA to apply for and secure grant money.

## A.2.7 Project Phasing

The development of new mountain biking trails within Dagmar North will proceed through a phased approach. The preparation of the Secondary Trail Plan Concept was the initial phase, resulting in the development of this document in March 2012. This secondary plan lays out the general objectives, strategies, principles, approaches, timeline and budget for the overall project. During 2013 - 2015, a detailed design and implementation plan will be developed annually to determine the particulars of where, when and how each trail will be built that year. Once each annual design and implementation plan is approved, the team will then proceed to construction through a series of trail building projects or events under TRCA supervision.

## A.2.8 Project Consultation

Consultation will continue to be a component of each phase of the project. The project partners (DMBA and TRCA) will continue to work together to consult and engage all necessary TRCA staff and all recognized stakeholders on an ongoing basis, including user groups and neighbours via the EDH Stewardship Committee.

## A.2.9 Shared Funding

The TRCA/DMBA partnership extends to include funding for planning, design, construction and maintenance of the new trail network. DMBA has fully funded the development of the Secondary Trail Plan Concept, including research and writing resources. Chico Racing, a prominent local trail designer, builder, and race promoter, was consulted during the development of this plan. DMBA will also be financially responsible for

the implementation of the detailed design and build phases. TRCA will be financially responsible for boundary securement and provision of signage for the proposed trails. Cost estimates are included later in this secondary plan for the annual design and build phases.

### A.2.10 Timelines

The Secondary Trail Plan Concept was completed, reviewed and approved by TRCA staff during winter 2011/12. The plan was reviewed and approved by the EDH Stewardship Committee in the fall of 2012, and was subsequently incorporated into the EDH Management Plan Update.

Trail building will take place over three years, from 2013 through 2015, with annual detailed design and build plans to be completed and approved by May 1<sup>st</sup> of each year for implementation during that year.

## A.3 SPECIAL ISSUES

### A.3.1 Access

A unique challenge for the Dagmar North property is its distinct lack of a convenient or integrated trail head and parking area. Opportunities for future access points and parking areas are currently being investigated. The property has a gated access point from Lake Ridge Road for maintenance and emergency vehicle access, and TRCA is currently exploring the option of using this access point as a public parking area and trail head. At present, the existing Three Rocks parking lot/trail head on 7<sup>th</sup> Concession Road at Glen Major is the closest TRCA trail head for this property. Vehicle access could also be made available through Dagmar Ski Resort's parking lot, but only with special permission. The use of the ski resort parking lot could be explored for trail events.

Connectivity to the other trail systems in EDH is also important, and to this end three additional trail connections are being explored:

- An access corridor has been secured from the north, which would allow connectivity from Dagmar North to TRCA's recently acquired Skyloft property. The Skyloft property provides trail corridors leading even further northwards to Durham Regional Forest and Uxbridge via the Trans Canada Trail.
- An access corridor is being explored from the south, which would allow parking at the Three Rocks parking lot/trail head and facilitate connectivity to TRCA's Glen Major Forest to the west.

- An access trail is being planned from the west along the strip of TRCA land that connects the Dagmar North property to 7<sup>th</sup> Concession Road.

All access trails will be built as closely to IMBA Class 2/3 specifications as possible to ensure all types and levels of users are welcome to the property.

Although these access corridors do not provide a parking area directly on the property, which a short day hiker might desire, they will accommodate the area's targeted users – the cycling community. Once these connecting corridors and trails have been established, the average cyclist could park at the Three Rocks, Walker Woods, Durham Forest or Chalk Lake Spring parking lots and easily ride to the Dagmar North trails from there.

### A.3.2 Dagmar Ski Resort Seasonal Use and Coexistence

Dagmar Ski Resort leases the Dagmar North property from TRCA for their cross-country ski operations for six months from fall to spring each year. TRCA intends to continue this lease for private, exclusive winter use. The renewed public access during spring to fall is not expected to conflict with Dagmar Ski Resort's winter use, but some accommodation and arrangements will need to be made to ensure a respectful and agreeable coexistence.

Signage, gates and communication with user groups will be necessary to convey the seasonal segregation of uses. Year-round signs placed at all entrances to Dagmar North will prominently note that public access is limited to the snow-free period from April through November only. All public access trails from the north, south and west will have a gate or stile that can be closed and signed during Dagmar Ski Resort's exclusive use during the winter season. DMBA will also educate and remind the cycling community of the limited seasonal public access available to Dagmar North.

### A.3.3 Trail Events in Dagmar North

Dagmar North has a rich history of hosting mountain biking events both small and large. When the new network of single-track trails is complete, Dagmar North will again be in a position to support a select number of events annually. Although events are generally not permitted within EDH, Dagmar North has been identified in the EDH Management Plan Update as an area where special events may be appropriate pending specific TRCA approvals. Hosting a small number of revenue generating events in Dagmar North each year would allow the partners to reinvest in the property and pay for some of the ongoing costs of maintenance and access. Potentially

appropriate events for the new Dagmar North trail network could include:

- One annual Ontario Cup mountain bike race – approximately 600-800 participants
- One annual 8-hour mountain bike relay – approximately 300 teams of 1-4 members
- One annual trail running event – approximately 1,200 participants
- One annual school event, either mountain bike or cross-country running – approximately 500 participants.

To limit ecological impact, these events would take place over a single day, and would be limited to the trail network during the daylight hours. Trails within Dagmar North will be built to sustain this kind of occasional wear. Any trail repairs that might be required as a result of an event would be the responsibility of the event promoter as a condition of their permit. Each of these events could generate approximately \$2,000 in permit fees, which would be reinvested back into the property to cover ongoing maintenance and access costs.

As Dagmar Ski Resort’s parking area and/or other facilities would be required to support these events, the resort’s cooperation and use of their facilities would need to be obtained by each event promoter. Preliminary discussions with Dagmar Ski Resort management have indicated that the resort may be open to cooperating with a small number of well managed and controlled events during their off-season.

### Recommendations:

- Ar 2. Schedule up to four trail events on the Dagmar North trails to develop a revenue stream for trail maintenance and access in partnership with DMBA and local trail event organizers.

## A.4 TRAIL SYSTEM DESIGN

### A.4.1 Overview

There is currently 11.1 km of double-track trail existing within the Dagmar North tract. These trails can be characterised as Class 2 and Class 3, generally 1- 6 m wide, with gentle curves, no obstacles, gently undulating with some steep sections, primarily maintained for cross-country skiing. Some 10-12 km of sustainable single-track will be constructed to form loops in between the pre-existing backbone of ski trails. This will approximately replace the length of single-track that existed prior to 2006 and restore the overall trail length and density of that time. The primary focus of this Trail Plan is to provide an intermediate to advanced trail experience; however, in order to accommodate a wide variety of trail experiences, a mix of various trail types are proposed for these new trails.

The proposed mix of trail classes for new trails is as follows<sup>1</sup>:

- Class 2 – 20 per cent (2 km)
- Class 3 – 30 per cent (3 km)
- Class 4 – 50 per cent (5 km)

The Dagmar North trail system is to be designed with a focus on trails that provide an intermediate to advanced cycling experience. In order to attract cyclists away from the other EDH lands and reduce traffic, wear, and conflict, the Dagmar North trails will need to provide a superior riding experience. Certain technical trail features will be necessary.

Technical features within the Dagmar North tract will allow intermediate cyclists to develop their technical riding skills and will provide advanced cyclists with a location to exercise already developed skills. These technical features will be designed to promote skill development without being excessive in risk and consequence. Although this area is being designed to specifically attract intermediate to advanced cyclists, ample opportunity will exist to satisfy other users. More moderate user experience will be accommodated mostly on the extensive existing double-track trail network and the additional 3 km of Class 3 single-track trails.

<sup>1</sup> The proposed trail class distribution is for illustrative purposes and is subject to detailed site/implementation plans.

## A.4.2 Location of Trails

This concept plan does not address the exact location of new trails. This information will be clearly detailed in the detailed design and implementation plans, to be completed after approval of this concept plan. However, Map A.1 indicates the conceptual locations of new trail loops off the existing backbone network. These do not indicate specific proposed trail locations.

Generally, all trails will be routed with an environment first approach. With this in mind, the southwest corner of the property will be mostly avoided as it has been deemed to be ecologically sensitive by TRCA Ecology staff and designated as a Nature Reserve Category 1 in the EDH Management Plan Update (see management zone map). A trail currently surrounds the northern boundary of the Nature Reserve Category 1 zone. Efforts are underway to utilize this trail to make a connection between the Dagmar North and South properties. The final location of this connection will depend on negotiations by TRCA to secure a trail corridor leading from the Glen Major parking lot/trail head (Three Rocks) on 7<sup>th</sup> Concession Road.

A detailed trail design and implementation plan will be developed and approved each year prior to actual trail building. Priority trail corridors will be identified in these detailed designs. Approximate trail corridors will be flagged in the field to indicate a +/-20 metre zone through which the final trail will be located. Flagging of corridors will incorporate cultural and natural heritage guidance, trail density considerations, topography and IMBA guidelines for sustainable trail design. These flagged corridors will be inspected by the required TRCA staff, including Ecology, Archaeology, and Conservation Lands. Once corridors are approved by TRCA, the exact tread will be pin flagged and then given a final inspection by the required TRCA staff before construction begins.

### Recommendations:

Ar 3. That DMBA develop yearly detailed trail design and implementation plans for the Dagmar North property in partnership with TRCA.

## A.4.3 Trail Building Techniques

All single track trails will be constructed to International Mountain Biking Association (IMBA) standards and thus adhere to the “essential elements of sustainable trails,” as outlined in *Trail Solutions – IMBA’s Guide to Building Sweet Singletrack* (2004).

### Recommendations:

Ar 4. That DMBA design and construct all single-track trails to TRCA and IMBA standards.

## A.4.4 Technical Trail Features

Technical trail features found on Class 4 trails may include natural and/or enhanced natural features as defined in the Parks Canada *Visitor Activity Guidelines: Mountain Biking*. These features would include:

- Choke points (obstacles placed along the sides of the trail to confine the tread and slow users)
- Log-overs/log-piles not exceeding 45 cm in height
- Log rides (logs with top surface planed off to provide a level riding surface) not to exceed 45 cm in height
- Installed rock gardens, trail armouring and natural and man-made drops not to exceed 45 cm in height (sudden change in elevation)

### Recommendations:

Ar 5. That detailed trail design and implementation plans include the use of “enhanced natural features” as defined in the Parks Canada *Visitor Activity Guidelines: Mountain Biking*.

Ar 6. That where “enhanced natural features” are incorporated into the detailed design of a trail at the Dagmar North lands, an alternate line should also be constructed that allows trail users to avoid the feature.

## A.4.5 Risk Management

Mountain biking is an exciting sport that carries some degree of inherent risk. TRCA and DMBA will work together to manage some of this risk through wayfinding and trail design. It should be noted that users are ultimately the best judge of their ability and are responsible for their own safety.

Mountain bikers enjoy the excitement of perceived speed. However, absolute speed is a risk factor and an important aspect to be addressed in order to diminish user conflict. Technical trail features and narrower tread widths provide a feeling of speed, while the user is actually traveling slower than they might think. This provides the thrill the cyclist is looking for while reducing the risk to the rider and other trail users.

## Recommendations:

Ar 7. That the following protocols be incorporated into the detailed design and implementation plans for each section of trail built on the TRCA Dagmar North property:

- Appropriate signage is to be placed at the beginning of each single-track trail showing the trail classification for that section to allow users to make informed decisions about whether to take the trail or not.
- Trail features should emphasize skill instead of consequence by designing features to have a minimum consequence to trail users in the event of failure.
- Trail speed should be managed through trail design.
- Features should be placed on the sides of the trails (logs, rocks, etc.) to prevent trail widening and reduce rider speeds.
- Clear site lines should be provided near turns or enhanced trail features.
- Optional lines should be provided that allow trail users to avoid the most advanced enhanced trail features on the trails.
- Enhanced trail features should be placed at the beginning of the most advanced trails to act as 'gateway features' that give trail users a representation of the more difficult features that might be encountered further down the trail.
- Absolute speed should be controlled through detailed trail and implementation plans that include rock armouring and rock gardens.
- Adequate space should be provided between technical trail challenges so that the users have enough recovery room to stabilize themselves between difficult features.
- Appropriate fall zones should be developed near the most advanced technical trail features to help minimize the risk of failure.

### A.4.6 Timeline

Implementation of this Secondary Trail Plan Concept will take place over three years, beginning in 2013 and completed in 2015.

In order to attract users to the property quickly it will

be essential to have at least one access trail and a few kilometres of single-track trails constructed in the first year. In total this would involve building approximately 5 km of trails in 2013, including the access trails. In 2014 and 2015 DMBA will build 3-4 km of trail per year.

Trail building will be mostly by hand, although some hybrid of hand and machine trail construction may be required. The exact trail building techniques will be incorporated into the detailed trail design and implementation plans for each trail build.

The following represents a proposed timeline for the implementation of this plan:

#### 2013

1. Secondary Trail Plan Concept completed and approved in principle – Winter
2. Development of preliminary detailed design and implementation plan that identifies approximate trail corridors (10-12 km) – April
3. Prioritize, flag and obtain preliminary approval for 2013 build corridors – May
4. Pin flag final 2013 trail alignments (5 km) – May
5. Inspection and final approval by TRCA of pin-flagged routes – June
6. Finalize 2013 detailed design and implementation plan - June
7. Build 5 km of trails during the 2013 field season
8. Official opening of Dagmar North tract – date dependent upon completion of access trails and new single-track trails

#### 2014

1. Develop 2014 preliminary detailed design and implementation plan that identifies approximate trail corridors – Winter
2. Prioritize, flag and obtain preliminary approval for 2014 build corridors – March
3. Pin flag 2014 trail alignments (4 km) – April
4. Inspection and final approval by TRCA of pin-flagged routes – April
5. Finalize 2014 detailed design and implementation plan - April
6. Build 4 km of trail during the field work season – May to October

## 2015

1. Develop 2015 preliminary detailed design and implementation plan that identifies approximate trail corridors – Winter
2. Prioritize, flag and obtain preliminary approval for 2015 build corridors – March
3. Pin flag 2015 trail alignments (3 km) – April
4. Inspection and approval by TRCA of pin-flagged routes – April
5. Finalize 2014 detailed design and implementation plan - April
6. Build 3 km of trail during the field work season – May to October

### A.4.7 Maintenance

Trails built to sustainable standards should require only minimal on-going annual maintenance. TRCA and DMBA will share the ongoing maintenance responsibilities for the Dagmar North trail network during the snow-free seasons, and these responsibilities will be articulated within an agreement between TRCA and DMBA. TRCA will maintain the trails, entrances and signs as with all EDH properties. TRCA will also continue hazard tree monitoring and removal. DMBA may engage in annual maintenance of the single-track trails to the agreed-upon trail standards.

Consistent with TRCA's maintenance procedures, DMBA will conduct regularly scheduled trail maintenance days. Using trained DMBA member volunteers, DMBA will conduct necessary routine maintenance adhering to the agreed upon trail standards. These maintenance procedures will ensure that trails and features remain in good, safe, usable condition and trails do not degrade from erosion or wear and tear.

DMBA trail maintenance days will include clearing trails of small branches, removing natural or man-made litter, and pruning and trimming of vegetation found in trail corridors. Maintenance should also typically include the removal of invasive species where said species encroach upon the trail. DMBA trail maintenance days should generally be scheduled twice a year, but can be conducted more often on an as needed basis.

DMBA has a demonstrated ability in other on-going partnerships to regularly rally significant numbers of knowledgeable volunteers to proficiently perform this maintenance. DMBA members can generally identify and report windfall or hazard trees via e-mail to the DMBA trail captains. Windfall or hazard trees would then be

routinely reported to TRCA staff by designated DMBA trail captains for subsequent TRCA staff attention, where power equipment (chainsaws) might be required.

#### Recommendations:

- Ar 8. That the agreement between TRCA and DMBA incorporate a maintenance and management schedule for the ongoing care and stewardship of the Dagmar North lands.
- Ar 9. That the maintenance schedule for the Dagmar North lands be consistent with the maintenance schedule and requirements for the EDH properties as a whole.

### A.4.8 Signage

A trail signing system for the Dagmar properties will be developed, complementary to the broader EDH trail signage strategy as outlined in the EDH Trail Plan. Additional or supplementary signage in some areas will be required to meet the specific requirements of the Dagmar North trail system.

The joint use of Dagmar North with the Dagmar Ski Resort will require special signage considerations. Year-round signs, gates and communication will be located at all entrances to Dagmar North prominently noting that public access is limited to the non-leased period of the year. Some specific signage considerations will also be given to Dagmar Ski Resort's unique needs to identify their winter cross-country trails and routes. These will be developed in consultation with Dagmar Ski Resort.

A trail rating system will be developed and advanced mountain biking trails will be identified as such to inform the users of their respective challenging nature. Some challenging features on these trails may be signed to inform users and mitigate risk. Where advanced options on intermediate trails and easier options on more advanced trails are offered, these choices may be signed.

The mountain bike community often adopts names for trails that reflect their history, nature or personality to assist with communication, orientation and navigation among riders. Names for the new Dagmar North trails will be developed and incorporated into the signage system.

#### Recommendations:

- Ar 10. Develop a comprehensive signage plan for the Dagmar North trail system incorporated into the larger EDH signage strategy.
- Ar 11. That the signage plan for the Dagmar North site includes signage clearly stating the risks involved in riding advanced trails and technical trail features.

- Ar 12. That the signage plan for Dagmar North be developed in partnership between DMBA and TRCA.
- Ar 13. That the signage plan for Dagmar North be consistent with the signage strategy for the rest of the EDH.

## A.5 BUDGET

### A.5.1 Estimate Considerations

Based on previous experience in building trails, DMBA estimates that machine-built and contractor-finished trail routes will cost \$5,000 to \$10,000 per km depending on terrain to be traversed. A hybrid of machine shaping and volunteer hand tool finishing is expected to cost approximately \$3,000 to \$6,000/km plus the volunteers' efforts. Hybrid trail construction will be employed wherever and whenever possible to keep actual expenses to a minimum.

DMBA membership volunteer labour will be used wherever possible to minimize actual costs. The person-hours and their equivalent dollar value are included below to more completely reflect the scope of the inputs to this project and acknowledge the value of the cycling community's volunteerism. *Imagine Canada's Volunteer Value Calculator* and its value of \$15 per hour for "General Labour – Grounds Keeper in Ontario" were used for these calculations. The "Skilled Trades" value of \$20 per hour was used for the planning, design and layout volunteer work. The contribution of these volunteer hours and efforts are not included within DMBA's commitment to 50 percent of the financial costs of developing the new trail network.

Some materials such as rocks or turf stone will be required to reinforce drops or switchback turns, augment rock gardens, and armour steeper sections of some advanced trails to ensure all these sections remain sustainable. These materials will be acquired through TRCA or other low-cost sources. A representative amount is included in the estimates below to acknowledge these material costs. The actual amounts per year will be determined annually and included in the detailed trail design and implementation plans for each year.

### A.5.2 Estimated 2013 Budget – 5 km

DMBA Trail Plan design and layout: 100 hours = \$2,000 equivalent – volunteered  
 Trail contractor fees for 3 km: **\$15,000-\$30,000**  
 DMBA trail crew to hand-build 2 km: 600 hours = \$9,000 equivalent – volunteered

Rock, turf stone and materials: **\$4,000-\$8,000**  
 TRCA trail heads and trail signs: **\$1,000-\$1,500**  
**Estimated total cost: \$20,000-\$39,500 /** Additional volunteer value: \$11,000

### A.5.3 Estimated 2014 Budget – 4 km

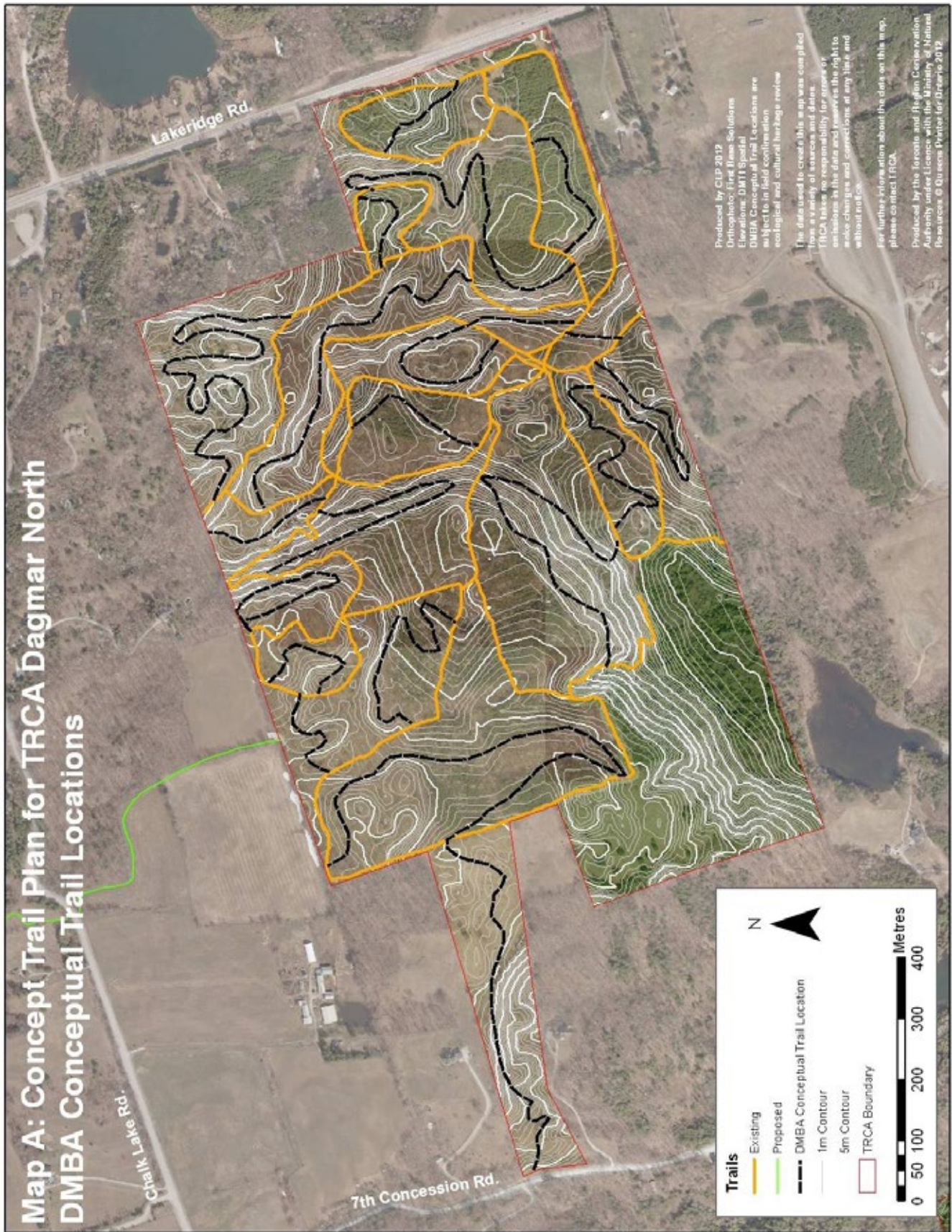
DMBA Trail Plan design and layout: 100 hours @ \$20 = \$2,000 equivalent – volunteered  
 Trail contractor hybrid fees for 2 km: **\$6,000-\$12,000**  
 DMBA trail crew to finish 2 km: 300 hours = \$4,500 equivalent – volunteered  
 DMBA trail crew to hand-build 2 km: 600 hours = \$9,000 equivalent – volunteered  
 Rock, turf stone and materials: **\$2,000-\$4,000**  
 TRCA trail signs: **\$500-\$750**  
**Estimated total cost: \$8,500-\$16,750 /** Additional volunteer value: \$15,500

### A.5.4 Estimated 2015 Budget – 3 km

DMBA Trail Plan design and layout: 100 hours @ \$20 = \$2,000 equivalent – volunteered  
 Trail contractor hybrid fees for 1 km: **\$3,000-\$6,000**  
 DMBA trail crew to finish 1 km: 150 hours @ \$15 = \$2,250 equivalent – volunteered  
 DMBA trail crew to hand-build 2 km: 600 hours = \$9,000 equivalent – volunteered  
 Rock, turf stone and materials: **\$2,000-\$4,000**  
 TRCA trail signs: **\$500-750**  
**Estimated total cost: \$5,500-\$10,750 /** Additional volunteer value: \$13,250

**Estimated total project cost: \$34,000-\$67,000 /** Additional volunteer value: \$39,750

TRCA and DMBA will share these costs on an equal basis and look for opportunities individually and together to obtain grants and to raise funds to accomplish this project.



Map A.1 Concept Trail Plan for TRCA Dagmar North

## **8.0 APPENDIX B**

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### **Summary of Management Recommendations and Management Actions**

**TABLE B1: EDH MPU SUMMARY OF MANAGEMENT RECOMMENDATIONS**

**General Management Plan Update Recommendations**

**Natural Heritage Protection**

- r1.** For both aquatic and terrestrial ecosystems, monitoring of flora, fauna and overall ecosystems conditions is recommended. This should be achieved through continuing the monitoring initiatives already in place and expanding these efforts where gaps exist
- r2.** Limit any land use changes (e.g., loss of natural cover) that will reduce the matrix influence score.
- r3.** Protect and restore groundwater recharge and discharge locations and pathways.
- r4.** Consider the effects on drainage, seepage and recharge zones of any management actions (e.g., parking lots).
- r5.** Pursue expanding contiguous areas of natural heritage protection through acquisition of select private lands.

**Terrestrial Invasive Species**

- r6.** Develop a property specific invasive control plan based on the forthcoming TRCA Invasive Species Management Strategy.
- r7.** Implement best management practices in the management of invasive species on the site.

**Species of Concern**

- r8.** Obtain all necessary regulatory permits and approvals required under governing acts and regulations prior to commencing any implementation activities, including restoration work and Trail Plan implementation.
- r9.** Tailor ecological restoration plans to target habitat improvements for species of concern.

**Hydrology**

- r10.** Complete geo-referenced inventory of existing wells.
- r11.** Investigate chemistry of groundwater discharge to gain better understanding of site conditions.
- r12.** Continue aquatic biodiversity monitoring within the east branch of the East Duffins Creek in support of regional monitoring programs.
- r13.** Assess site impacts of past and present land uses and develop mitigation plan, if required.
- r14.** Investigate opportunities to mitigate the effects of anthropogenic in-stream barriers on TRCA and neighbouring properties.
- r15.** Investigate and mitigate potential impacts to local aquifers by previous land uses.

**Restoration**

- r16.** Restoration opportunities should maximize benefits to ecosystem goods and services
- r17.** Restoration activities should be site-specific and aim to restore proper ecosystem function based on hydrology, natural cover, landform and species community.
- r18.** Restoration projects should restore natural succession and improve the quality of headwater drainage features.

<b>r19.</b>	Restoration efforts should maximize benefits for native species, including Species at Risk and their associated habitat requirements.
<b>r20.</b>	Continue ecological monitoring of specific restoration projects and the EDH properties as a whole.
<b>r21.</b>	Investigate opportunities to partner with individuals or organizations to implement restoration opportunities within EDH and the surrounding area.
<b>Cultural Heritage</b>	
<b>r22.</b>	Identify, protect and conserve all archaeological sites within the EDH Lands.
<b>r23.</b>	Pursue opportunities to preserve and interpret heritage sites for public education.
<b>r24.</b>	Engage Aboriginal communities with regards to any significant Aboriginal archaeological findings on-site.
<b>Trails</b>	
<b>r25.</b>	Allow for low impact trail uses, such as hiking, cycling horseback riding, snowshoeing, cross-country skiing, wildlife viewing and on-leash dog walking, within permitted trail corridors only.
<b>r26.</b>	Avoid locating trails within Nature Reserve Category 1 and Cultural Heritage Preserves.
<b>r27.</b>	Investigate options to connect all EDH properties through a system of trails.
<b>r28.</b>	Continue to permit and improve connections between EDH and adjacent or near-adjacent public lands.
<b>r29.</b>	Support and manage the Oak Ridges Trail and the Trans Canada Trail on EDH properties.
<b>r30.</b>	Create a continuous network of off-road trails emphasizing loops and connections, providing trail users with a variety of route options and experiences.
<b>r31.</b>	Work with local and regional emergency service providers to address any safety concerns and address issues limiting their response time within the trail system.
<b>Site Securement and Protection</b>	
<b>r32.</b>	Ensure continual monitoring and management of unauthorized uses to prevent environmental damage, protect public health and safety, and reduce maintenance costs.
<b>r33.</b>	Work with the Durham Regional Police Service and municipal by-law staff where necessary to address unauthorized use on the site.
<b>Community Outreach and Engagement</b>	
<b>r34.</b>	Continue to work with the EDH Stewardship Committee, who will help oversee, guide and assist in the implementation of the Management Plan Update recommendations
<b>r35.</b>	Engage local residents and community groups in stewardship programs that will improve EDH, further the Management Plan Update implementation and foster community stewardship.
<b>Funding</b>	
<b>r36.</b>	Explore partnership opportunities to support project implementation with the Township of Uxbridge, the City of Pickering, the Regional Municipality of Durham, local community groups and other interested stakeholders.

## Site Securement and Protection Plan Recommendations

- |      |   |
|------|---|
| r37. | That all built features within the EDH be secured.  |
| r38. | That the Walker Woods farm waste dump be removed and restored accordingly.  |
| r39. | That boundaries where persistent encroachments exist (or boundaries where there is high likelihood of encroachments to exist) be secured, monitored and signed accordingly. |
| r40. | That all encroachments be prioritized and resolved accordingly.   |
| r41. | That TRCA continue property boundary monitoring to ensure that existing encroachments are resolved and new encroachments are identified.                                    |

## Trail Plan Recommendations

### Natural and Cultural Heritage

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|------|--|
| r42. | The proposed trail system and any future trail development within EDH should be approved by appropriate TRCA staff.  |
| r43. | Avoid locating trails within Nature Reserve Category 1 and Cultural Heritage Preserves.  |
| r44. | Keep trail densities below the threshold of 120 m/ha, whenever possible.   |
| r45. | An area may be exempt from the 120m/ha threshold if approved by TRCA Ecology staff and if there is an associated reduction of the trail influence area.  |
| r46. | Monitor the natural and cultural heritage impacts of trails and their usage to determine if any action is required (i.e., trail closures, re-routing) to protect the environmental integrity of the properties and to ensure that the vision, objectives and principles of the Trail Plan are being met. |

### Trail and Recreation

- |      |   |
|------|---|
| r47. | Allow for low impact trail uses such as hiking, cycling, horseback riding, snow shoeing, cross-country skiing, wildlife viewing and on-leash dog walking within permitted trail corridors only.   |
| r48. | Restrict all motor vehicle access from trails, except for maintenance purposes by approved parties.   |
| r49. | Construct all future trails or re-routes to accommodate multi-use trail experiences, unless in areas designated as a “preferred use area” or “preferred use trail” (e.g., Dagmar North or an interpretive trail).   |
| r50. | Investigate advanced-level trail options for approved locations and designated trail corridors.   |
| r51. | Investigate and develop the Dagmar North and Dagmar South properties as locations for an advanced trail system.   |
| r52. | Investigate and classify “Ivy Alley,” “Snakes no Ladders,” “The 3 Switch Backs,” “The Pines,” “The Lady Di Memorial,” “TJ’s Way,” “To the Drops,” and “The Drops” as advanced trails.   |
| r53. | Limit public use of the properties and trails to daylight hours, except where the necessary TRCA approvals have been granted.   |
| r54. | Limit recreational events to areas of the properties deemed appropriate and only once the necessary TRCA approvals have been granted.   |
| r55. | Only when a trail cannot be updated in its current condition due to natural heritage, cultural heritage, management zone restrictions or any other design principles outlined in this document will the installation of a new trail be investigated in an alternate location. |

<b>r56.</b>	Designate the completed Trail Plan and trail length as the new baseline for implementing approximate trail equilibrium.
<b>r57.</b>	Develop all future trails in a manner that is consistent with all trail principles as well as all management zones, management objectives and TRCA trail construction guidelines.
<b>r58.</b>	Where it is found that trail relocation is necessary take every best effort to design the replacement trail in a manner that will replicate the closed trail experience and maintain trail equilibrium.
<b>r59.</b>	Where it is found that trail relocation is necessary, take best efforts to restore the closed trail sections to as natural a condition as possible.

### Connectivity

<b>r60.</b>	Continue to allow connections between EDH and adjacent or nearby public lands through inter-regional trails such as the Oak Ridges Trail and the Trans Canada Trail.
<b>r61.</b>	Investigate options for connections between all EDH properties.

### Trail System and Maintenance

<b>r62.</b>	Keep all trails on publicly owned lands unless an agreement with the landowner is developed.
<b>r63.</b>	Assign trail difficulty classifications and sign trails accordingly.
<b>r64.</b>	Provide clear and convenient trail access including adequate trail head parking lots and clear wayfinding signs.
<b>r65.</b>	Install signs and/or fencing to prevent trespassing or encroachments by trail users onto private lands.
<b>r66.</b>	Install signs highlighting trail work or re-routes during any trail improvement project.
<b>r67.</b>	Focus trail upgrades on the removal of safety concerns and environmentally degrading conditions.
<b>r68.</b>	Trail construction should emphasize natural surfaces and materials. Only where absolutely necessary and agreed to by TRCA staff and TRCA's public partners will other infrastructure or materials be installed.
<b>r69.</b>	Develop formal agreements with the local municipalities for the management of trails within road allowances.

### Public Engagement

<b>r70.</b>	Continue to work with community-based partners to ensure the establishment of a trail system that evolves to incorporate new methods of user benefits, design and safety.
<b>r71.</b>	Strive to reduce user conflicts by partnering with user groups through trail design and a system of educational signage.

### Emergency Management

<b>r72.</b>	Circulate copies of the emergency management plan, once completed, to the local emergency services providers.
<b>r73.</b>	Circulate copies of the emergency management plan, once completed, to local trail user group representatives.

## Monitoring and Review

- r74. Monitoring of the EDH trail system should be conducted on an ongoing basis to assess the success of implementation objectives, trail use and quality.
- r75. Review of the Trail Plan should be conducted at a minimum every three years, or as deemed necessary by TRCA staff, partners, and the EDH Stewardship Committee.

## Trail Heads

- r76. Update all trail head signs and maps to reflect the changes in the Trail Plan for the EDH and install trail head identification signs and kiosks at all new major trail heads.

## Trail Map and Guide

- r77. Develop an updated trail guide and map for the EDH trail system in coordination with the EDH Stewardship Committee.

## Interpretive Signs

- r78. Develop a natural heritage interpretative trail within the North Walker Woods trail system.
- r79. Develop a cultural heritage interpretative trail within Walker Woods.

## Trail Markers

- r80. Install post markers and wayfinding signs as shown on the proposed conditions maps.
- r81. Indigenous elements should be incorporated into the signage plan for the EDH.

## Structures

- r82. Continue to work with the local trail user groups, such as the Oak Ridges Trail Association, to maintain the EDH trail system.

## TABLE B2: EDH MPU SUMMARY OF MANAGEMENT ACTIONS

### General Management Plan Update Recommendations

#### Natural Heritage Protection

- a1. Ensure salt is not used in any TRCA winter management of trails and parking lots.
- a2. Investigate the need for additional groundwater monitoring sites to assess hydrological impacts of pending development on surrounding lands.
- a3. Ensure all management work occurs during appropriate times to minimize impacts on the vegetation, breeding birds, and dispersing or migrating amphibians.
- a4. Replace exotic species with site-appropriate native plants.

## Terrestrial Invasive Species

- a5. Inventory invasive species works already completed at EDH.
- a6. Map invasive species within the study area.
- a7. Establish priority locations for invasive species treatment and or monitoring.
- a8. Note occurrences of giant hogweed (no known occurrences) and other high priority exotic invasives.
- a9. Monitor historic garden sites for the presence and spread of invasive horticultural species.
- a10. Develop an invasive species prevention campaign targeting new residents to spread awareness about the impacts of non-native species and the live releasing of aquatic species into rivers and ponds.

## Species of Concern

- a11. If necessary, conduct targeted search for flora species known only from historical records and believed extirpated from the site.

## Hydrology

- a12. Develop a water monitoring plan for the site.
- a13. Consult hydrological recharge models prior to parking lot and trail construction to ensure infiltration and water balance are maintained.

## Restoration

- a14. Implement restoration activities as per the habitat implementation program for the Duffins watershed, as outlined in the *Duffins Habitat Implementation Plan* (2006) and the *Draft Duffins Creek Watershed Wetland and Riparian Opportunities Plan* (2008).
- a15. Implement forestry activities as per the *TRCA Managed Forest Plan* (1998).

## Cultural Heritage

- a16. Develop interpretive resources for identified cultural heritage features, including signage along a cultural heritage interpretive trail.
- a17. Develop a request for proposals to restore the Walker sawmill and accessory buildings as an interpretive feature.
- a18. Complete required archaeological assessment prior to any land disturbance.
- a19. Take required actions to address issues that may compromise known cultural heritage sites.

## Trails

- a20. Ensure all trail construction, improvements, naturalization or closures are carried out in accordance with TRCA's *Trail Strategy for Natural Areas* (currently in draft form).
- a21. Obtain all necessary regulatory permits and approvals required prior to commencing any potentially disruptive management or implementation activities, including trail development and parking lot construction.
- a22. Provide interpretive amenities and educate users about proper trail etiquette and environmental issues

a23.	Decommission and restore all informal trails that are not slated to become part of the formal trail system.
a24.	Develop a trail guide, trail head signs and wayfinding system for the EDH trail system.
<b>Site Securement and Protection</b>	
a25.	Undertake regular monitoring of all property boundaries. Monitoring should assess fencing, identify any new unauthorized access points, note condition of trail heads, signage, etc.
a26.	Post signage along property boundaries identifying permitted access points and permitted uses.
a27.	Regularly inspect and repair unauthorized access points to ensure barriers or fences are intact.
a28.	Proactively inform new homeowners of permitted uses on TRCA lands, through such methods as homeowner information packages, regular distribution of newsletters, and proper signage.
a29.	Promptly decommission any informal trails, bike stunts or other structures that are identified during property audits or through the Trail Captains program.
<b>Community Outreach and Engagement</b>	
a30.	Review and re-establish the terms of reference for the former Glen Major and Walker Woods Stewardship Committee that outlines roles and responsibilities and rename as the EDH Stewardship Committee.
a31.	Work collaboratively with members of the EDH Stewardship Committee to create annual work plans for the committee based on the Management Plan Update.
a32.	Work with regional and municipal partners to determine appropriate stewardship events.
a33.	Specifically target local school groups and community groups around which to focus stewardship events and educational programs.
a34.	Organize volunteers according to interests and skills, while ensuring such tasks as communications, boundary and trail monitoring, minor trail maintenance, and project fundraising work are addressed.
<b>Trail Captains</b>	
a35.	Continue to involve local community members as trail stewards to help care for and maintain the trail system through the Trail Captain program.
a36.	Continue to develop trail monitoring schedules to be carried out by the Trail Captain program.
<b>Outreach Materials</b>	
a37.	Proactively inform new homeowners of permitted uses on TRCA lands, through such methods as homeowner information packages, regular distribution of newsletters, and proper signage.
a38.	Continue to produce <i>The Woods</i> in a collaborative fashion and distribute it to local area residents.
<b>Economic</b>	
a39.	Investigate opportunities to obtain funding support from non-traditional sources.

## **9.0 APPENDIX C**

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### **Implementation Budget Summary**

**TABLE C1: MANAGEMENT PLAN UPDATE IMPLEMENTATION BUDGET SUMMARY**

Item	Deliverables	Anticipated Cost (\$)
<b>Phase 1, Years 1-5 (2013-2017)</b>		
Operations	Property maintenance, hazard tree removal and trail maintenance, community outreach	\$512,000
Site Securement and Protection Plan	Building assessment and securement, boundary fencing, high priority encroachments	\$88,000
Trail Plan	Trail closures , parking lot installation and expansion, updated signage and trail guide,	\$158,000
Natural and cultural heritage	Develop property specific invasive management plan and begin implementation	\$15,000
Restoration*	North Walker Woods aggregate site, Townline culvert repair, forestry	To be determined*
<b>Total Phase 1</b>		<b>\$773,000</b>
<b>Phase 2, Years 6-10 (2018-2022)</b>		
Operations	Property maintenance, hazard tree removal and trail maintenance, community outreach	\$540,000
Site Securement and Protection Plan	Boundary audit, fencing repairs, boundary signage	\$77,000
Trail Plan	North Walker Woods parking lot, anticipated trail improvements, trail guide update and printing, interpretive trail	\$200,000
Restoration*	Additional Uxbridge North Lands implementation (if needed), other restoration opportunities as they arise, forestry	To be determined*
<b>Total Phase 2</b>		<b>\$817,000</b>
<b>Phase 3, Years 11-15 (2023-2027)</b>		
Operations	Property maintenance, hazard tree removal and trail maintenance, community outreach	\$593,000
Site Securement and Protection Plan	Boundary audit, fencing repairs, boundary signage, building removal	\$82,000
Trail Plan	Pleasure Valley parking lot, anticipated trail improvements (Pleasure Valley accessible trail)	\$110,000
Restoration*	Forestry work and additional restoration opportunities as they are identified or as they arise	To be determined*
<b>Total Phase 3</b>		<b>\$785,000</b>
<b>TOTAL PROJECT COST (PHASES 1-3)</b>		<b>\$2,375,000</b>

\*Costs for restoration projects will be estimated upon completion of detailed site restoration plans

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the City of Pickering, O Reg 154/03.

## **11.0 ACKNOWLEDGEMENTS**

Appreciation and thanks are extended to all of the members of the Public Advisory Committee, which included the following individuals:

### **Glen Major and Walker Woods Stewardship Committee Executive:**

- Brian Buckles, Green Durham Association
- John Fisher, Durham Mountain Biking Association
- Tom Hawks, Durham Mountain Biking Association
- Joanne Michner, Uxbridge Horsemen’s Association
- Brian Millage, Oak Ridges Trail Association
- Jason Murray, Durham Mountain Biking Association, past member
- Mark Stabb, Nature Conservancy of Canada
- David Taylor, Green Durham Association, Chair
- Pat Thomas, local resident
- Michael Tucker, Green Durham Association

### **Glen Major and Walker Woods Stewardship Committee General Members (Past and Present):**

- Kevin Alcock, Uxbridge Horsemen’s Association
- Larry Bonehill, Uxbridge Horsemen’s Association
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- Bob Comfort, Oak Ridge Trail Association
- Barb Fletcher, business owner, The Meadows Equestrian Centre
- Marsha Fortus, Uxbridge Horsemen’s Association
- Eli Garret, local resident
- Alex Goerigieff, Region of Durham
- Bill Goulding, business owner, Sustainable Trails
- Judy Griffiths, business owner, Dream Feather Horsemanship Centre
- Larry Griffiths, business owner, Dream Feather Horsemanship Centre
- Barb Heidenreich, Ontario Heritage Trust
- John McCutcheon, John and Pat McCutcheon Foundation
- Bev Northeast, Councillor, Town of Uxbridge
- Gerri Lynn O’Connor, Mayor, Town of Uxbridge
- Lori Riviere, Region of Durham
- Sean Ruppel, business owner, Chico Racing
- Bob Shepherd, Oak Ridges Moraine Land Trust
- Henry Tang, Region of Durham
- Patricia Short-Galle, Oak Ridges Moraine Land Trust
- Michael Thomas, local resident
- Rich VanDezande, formerly, Township of Uxbridge
- Jack de Wit, Ontario Trails Council

### **Project Steering Committee**

The Project Steering Committee included TRCA staff members who provided technical information and advice during the development of the Management Plan Update. This group also provided technical information and advice during the development of the background material for the Management Plan Update. Members of the committee included:

- Mike Bender, Conservation Lands
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- Ralph Toninger, Restoration and Environmental Monitoring
- April Weppler, Conservation Lands
- Mary Williams, Stewardship and Outreach Education

In addition to the Project Steering Committee members, special thanks and acknowledgement should be given to the following individuals whose assistance and input were vital to the development of this Management Plan Update:

- Craig Losos, Restoration and Environmental Monitoring
- Steve Roesch, Conservation Lands
- Eric Smith, Conservation Lands
- Janice Teichroeb, Archaeology Resource Management Services
- Christine Tu, Stewardship and Outreach Education

