

11

PEGGY'S WOOD NATURE RESERVE AND BATHURST AREA FOREST MANAGEMENT PLAN, TOWN OF EAST GWILLIMBURY AND TOWN OF NEWMARKET

The Environmental Services Committee recommends the adoption of the recommendations contained in the following report dated May 16, 2012, from the Commissioner of Environmental Services.

1. RECOMMENDATIONS

It is recommended that:

1. Council endorse the Peggy's Wood Nature Reserve and Bathurst Area Forest Management Plan.
2. This report be circulated by the Regional Clerk to the Town of East Gwillimbury, Town of Newmarket, Lake Simcoe Conservation Authority and Nature Conservancy of Canada, Ontario Region.

2. PURPOSE

The purpose of this report is to present a summary of the Peggy's Wood Nature Reserve and Bathurst Area Forest Management Plan as it relates to York Region interests, and seeks Regional Council endorsement of this plan.

3. BACKGROUND

In 2006 a 17 hectare nature reserve was donated to York Region in partnership with the Nature Conservancy of Canada

In 2001, York Region under the Greening Strategy, worked with the Nature Conservancy of Canada and the Dunlap and Robarts families to assess conservation options for their property (Peggy's Wood Nature Reserve – *Attachment 1*). In 2006 there was a 17 hectare donation to York Region by the Dunlap and Robarts families, through the Nature Conservancy of Canada (NCC). This land donation included a landholding agreement between York Region and the Nature Conservancy of Canada. In general, this agreement outlined the Region's responsibility to use the lands for ecological purposes and requirement to prepare a management plan.

Immediately south of the donated property, York Region owns an additional two hectare parcel of land on the east side of Bathurst which was acquired through the road expansion project. Combined, these lands (19 ha) are referred to as Peggy's Wood Nature Reserve.

In 2006, Council authorized staff to enter into discussions with the Towns of East Gwillimbury and Newmarket regarding the long-term protection and management of Peggy's Wood Nature Reserve. Staff have coordinated with the Towns, Lake Simcoe Conservation Authority and Nature Conservancy of Canada to develop the Peggy's Wood and Bathurst Area Forest Management Plan.

Study area consists of 97 hectares with portions owned by York Region (19 hectares), the Town of East Gwillimbury and the Town of Newmarket

York Region owned lands are referred to as Peggy's Wood Nature Reserve and found within a larger forested area that the Towns of East Gwillimbury and Newmarket have protected through the land use planning process. It was therefore a logical step to collaborate and expand the study area boundaries to include lands protected and owned by the Towns.

The study area contains, the largest forest block within the Town of Newmarket, some open areas, and tributaries of the West Holland River. The forest is identified as part of the Regional Greenlands System and represents 0.25% of the Region's forest cover. Studies related to tree age confirm that old growth woodlands (as much as 160 years old) exist within this forest community. This area provides significant opportunity for natural heritage protection which fosters public use and enjoyment.

4. ANALYSIS AND OPTIONS

The Plan contains background information regarding the existing recreational use, and ecological features. This information helped to develop a comprehensive trail network (*Attachment 2*). Analysis of operational and construction requirements informed recommendations in the plan. Below is a summary of the process and plan recommendations. More details can be found in the Executive Summary *Attachment 3*.

Residents and stakeholders engaged during development of these plans

A technical steering committee was established to advance the Peggy's Wood Nature Reserve and Bathurst Area Forest Management Plan. Committee members include the Town of East Gwillimbury, Town of Newmarket, Lake Simcoe Region Conservation Authority, the Nature Conservancy of Canada and Region staff. In February of 2009 the draft Interim report was posted on the York Region website for comment, followed by a public information centre in April of 2009 to present draft issues, management recommendations and a proposed trail system.

Plan balances ecological protection and public use and makes recommendations for management and implementation

The vision for these lands is to provide a location for public use and enjoyment while preserving and enhancing biodiversity and ecological functions. Public engagement through stewardship and education are emphasised as management tools to help achieve this vision.

Current and potential management issues and site enhancements from both a public use and ecological perspective are identified. The Plan presents a list of issues and recommended actions, and takes a preliminary look at the capital and operational costs. The top issue areas include: siltation, invasive species prevention, edge management, unauthorized use, mountain bike stunts, erosion and hazard tree removal.

The Plan outlines a trail network to provide recreational opportunities, neighbourhood connectivity, improved serviceability, and encourages the responsible use of the woodland by the local community. The trail plan as part of the overall management strategy establishes key connections while respecting ecological sensitivity. Future impacts from increased use of the area will be mitigated through implementation of the trail system and signage.

The Plan provides recommendations for implementation, including administration of long-term management, trail construction, proposed roles and responsibilities, and cost estimates. Guidance provided in the Implementation Strategy section of the Plan provided the foundation for developing an implementation guide.

Implementation Guide provides direction to stakeholders by identifying priorities, with suggested timing and responsibilities

In 2011, an Implementation Guide was prepared for the site (Peggy's Wood and Bathurst Area Forest Implementation Guide, North-South Environmental Inc. 2011). The guide provides logical sequencing for construction of the trails network to assist York Region and the Towns of Newmarket and East Gwillimbury in decision-making based on benefits and costs for implementation and maintenance of each trail segment. High, medium and low priority actions required to achieve trail objectives are described, and responsibilities are identified. A prioritized framework for sequencing and phasing construction of each trail segment, is also provided.

Town of East Gwillimbury, Town of Newmarket and York Region combine efforts to design a trail network connecting two municipalities

Lands surrounding this woodland support growing residential communities, it is therefore important for both protection of natural resources and recreational use that a trail system be a strong component of this plan. The Northwest Newmarket Secondary Plan Area Open Space Management Plan and Trail System (Stantec, 2005) was reviewed for background information. The trail system recommendation is for a 7.5 km network which includes multi-use, recreational and low impact trails, and boardwalks. The Plan also recommends the closure of approximately 4.0 km of existing ad hoc footpaths.

The Town of Newmarket has already constructed 1 km of the multi-use trail identified as the Dave Kerwin Trail. A 1.5 km wheelchair accessible loop and connection to Woodspring Avenue is currently under construction and approximately 1.5 km of the extension of the Dave Kerwin Trail to East Gwillimbury is scheduled to be designed and built this year. The Town of East Gwillimbury has completed construction of 578 metres of trail, and has scheduled a 345 metre multi-use extension from this trail to Newmarket for completion in 2013.

Link to Key Council-approved Plans

All 97 hectares of the study area are identified as part of the Regional Greenlands System. Management, protection and enhancement of these lands is consistent with the Regional Greenlands System objectives as stated in the Regional Official Plan (2009).

“To identify, protect and enhance the Regional Greenlands System and its functions to ensure a healthy system rich in native biodiversity.”

The Regional Official Plan also contains a policy which speaks to the importance of working with local municipalities, conservation authorities and trail organizations on initiatives that contribute to, or complement, the creation of a Regional Greenlands System trails network.

The Plan directly supports five of the eight goals and associated actions identified in Draft Vision 2051 to achieve the vision for *a strong caring and safe community*. The trail network provides an opportunity for healthy living as part of an inter-regional trail network. Added protection of these lands through natural feature management supports draft Vision 2051 actions for A Protected, Connected and Enhanced Regional Greenlands System.

The Regional Greening Strategy provides opportunities to protect and enhance the natural environment of York Region through the empowerment of actions by our municipalities, partners, stakeholders and residents. Management recommendations for the Peggy's Wood Nature Reserve and Bathurst Area Forest are consistent with the Regional

Greening Strategy and its action areas including; natural area protection, reforestation, education and stewardship.

7.5 km of trails support the Region's Pedestrian and Cycling Master Plan objectives

York Region's Pedestrian and Cycling Master Plan (2008) recommends Regional and interregional scale trail networks that provide opportunities for commuting and recreation. The trail network proposed in the Peggy's Wood Nature Reserve and Bathurst Area Forest Management Plan offers 7.5 km of looped trails for pedestrians. This includes 4 km of multi-use trail which is suitable for cyclists and in-line skaters, 1.9 km of recreational trails, 1.25 km of low impact trails, and 0.35 km of boardwalks. Trail design recommendations are consistent with the guidelines outlined in the Region's Pedestrian and Cycling Master Plan.

5. FINANCIAL IMPLICATIONS

The Plan identifies a phased approach including shared capital costs and defined responsibilities

The estimate to implement all Stage 1 aspects of the Plan is \$2,710,243 (Table 1). The York Region capital cost is estimated at \$233,019. These funds will be used for trail construction and trail infrastructure (trailheads, signage, boardwalks and footbridges) in Peggy's Wood Nature Reserve owned by York Region. The Plan includes a Stage 2 implementation estimate (\$905,024), however any additional budget request and works will be subject to further review and consideration by Council, once Stage 1 has been completed by 2017.

The 2012 approved capital budget has identified funds (total project budget authority \$250,000) to complete the Stage 1 works over 2012 and 2013. The 2013 capital allocation will be confirmed in the 2013 budget.

York Region's Pedestrian and Cycling Municipal Partnership program is a funding program that exists to support development and construction of regional scale trails. This program offers up to 50 per cent of eligible costs for qualifying local municipal and agency pedestrian and cycling projects that serve a regional interest. Both the Town of East Gwillimbury and Town of Newmarket are eligible to apply for funding to assist with constructing components of the proposed trail network that are part of the Pedestrian and Cycling Master Plan. East Gwillimbury has already made application to this program for a multi-use trail along the Green Lane road right of way connecting to the North East quadrant of this Plan.

Table 1
Stage 1 Implementation – Capital Cost Estimates

Description	East Gwillimbury	Newmarket	York Region	Total
Trail Closure	\$9,030	\$18,270	\$0	\$27,300
Trail Construction	\$154,928	\$1,204,523	\$141,524*	\$1,500,975
Access point	\$57,150	\$108,700	\$0	\$165,850
Interpretive Signage	\$0	\$11,450	\$8,450	\$19,900
Footbridges	\$0	\$171,500	\$42,375	\$213,875
Stairways	\$0	\$167,500	\$0	\$167,500
Contingency	\$43,965	\$530,208	\$40,670	\$614,843
TOTAL	\$265,073	\$2,212,151	\$233,019	\$2,710,243

* trail segments will be phased and completed subject to available funds

Note: costs shown are estimates for planning purposes.

To date the Region's operating costs for Regionally owned property have been minimal. It is anticipated that the future operating costs will fall in line with the existing operating budget.

6. LOCAL MUNICIPAL IMPACT

Local municipalities endorse Peggy's Wood Nature Reserve and Bathurst Area Forest Management Plan

These woodlands are a significant ecological and recreational amenity for the Town of East Gwillimbury, Town of Newmarket and residents of York Region.

The Town of East Gwillimbury and Town of Newmarket were key partners in developing the Peggy's Wood Nature Reserve and Bathurst Area Forest Management Plan. The Plan was endorsed by both the Town of East Gwillimbury and Town of Newmarket Councils this spring.

Staff are reviewing options for future management and operations for the Peggy's Wood Nature Reserve owned by York Region

With multiple jurisdictions and ownership of a connected trail system and associated park lands, management and operations will need to be coordinated. Staff are continuing to consult with the local municipalities to consider efficiencies and opportunities for future operational management of Peggy's Wood Nature Reserve.

7. CONCLUSION

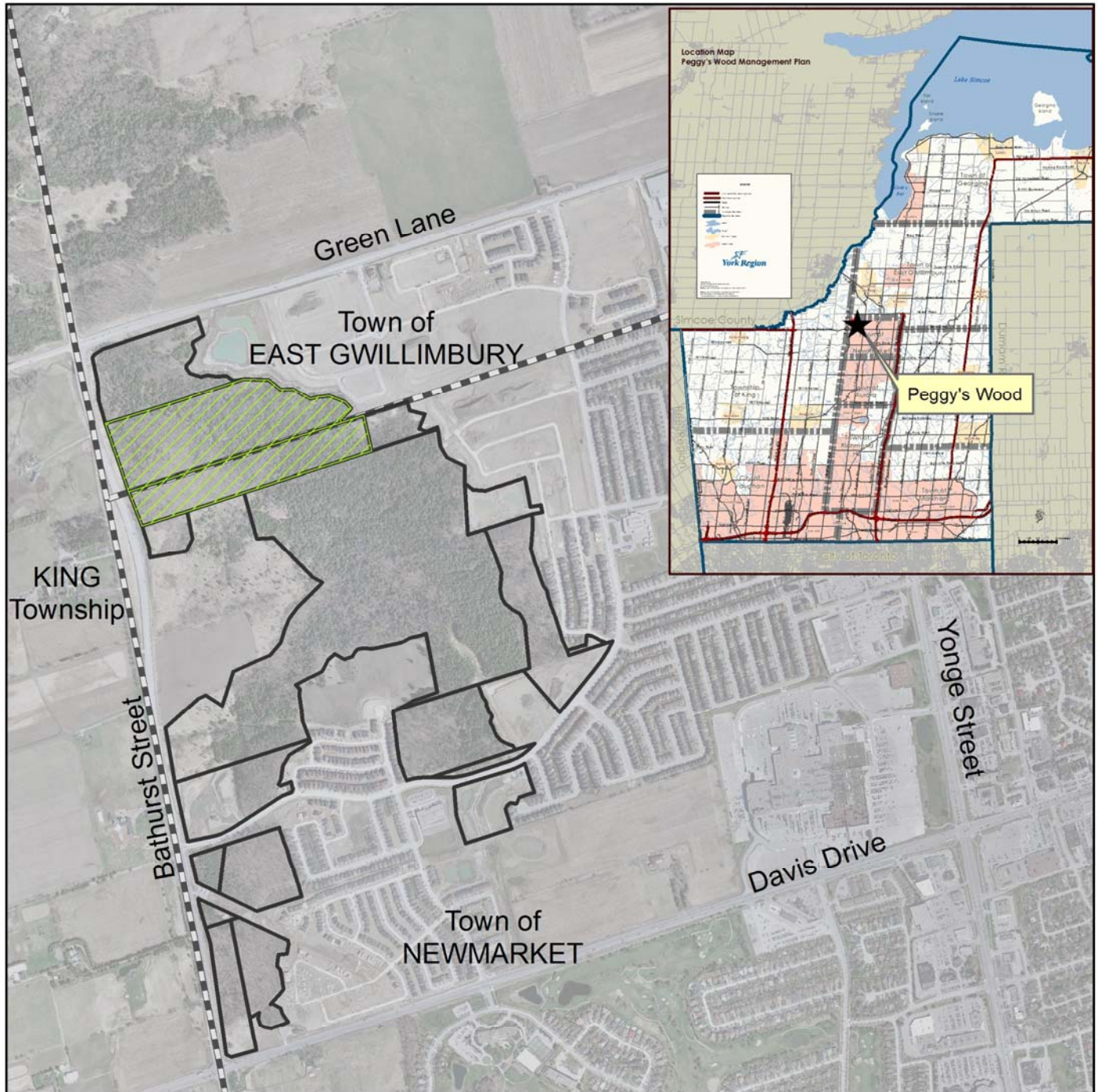
Endorsement of the Peggy's Wood Nature Reserve and Bathurst Area Forest Management Plan is consistent with Regional objectives and policies as articulated in the York Region Official Plan, Draft Vision 2051, Pedestrian and Cycling Master Plan and Greening Strategy. Funding has been identified in the capital budget to complete the Stage 1 works. Upon completion of Stage 1 works, a review of public use of the area and any need for further works (Stage 2) will be conducted and reported to Council as necessary.

The Plan protects 97 hectares of Regional Greenlands and provides 7.5 km of trails in partnership with the Town of East Gwillimbury and Town of Newmarket. Council endorsement of this Plan will further demonstrate York Region's commitment to protecting and restoring a healthy natural heritage system and providing a linked system of trails for current and future generations.

For more information on this report, please contact Ian Buchanan, Manager of Natural Heritage and Forestry at 905-830-4444 Ext. 5204 or Laura McDowell, Director of Environmental Promotion and Protection at Ext. 5077.

The Senior Management Group has reviewed this report.

(The three attachments referred to in this clause are attached to this report.)



Peggy's Wood Nature Reserve and Bathurst Area Forest Town of Newmarket & Town of East Gwillimbury

Legend

-  York Region - Peggy's Wood Nature Reserve
-  Peggy's Wood Study Area
-  Municipal Boundary

0 175 350 700 Meters

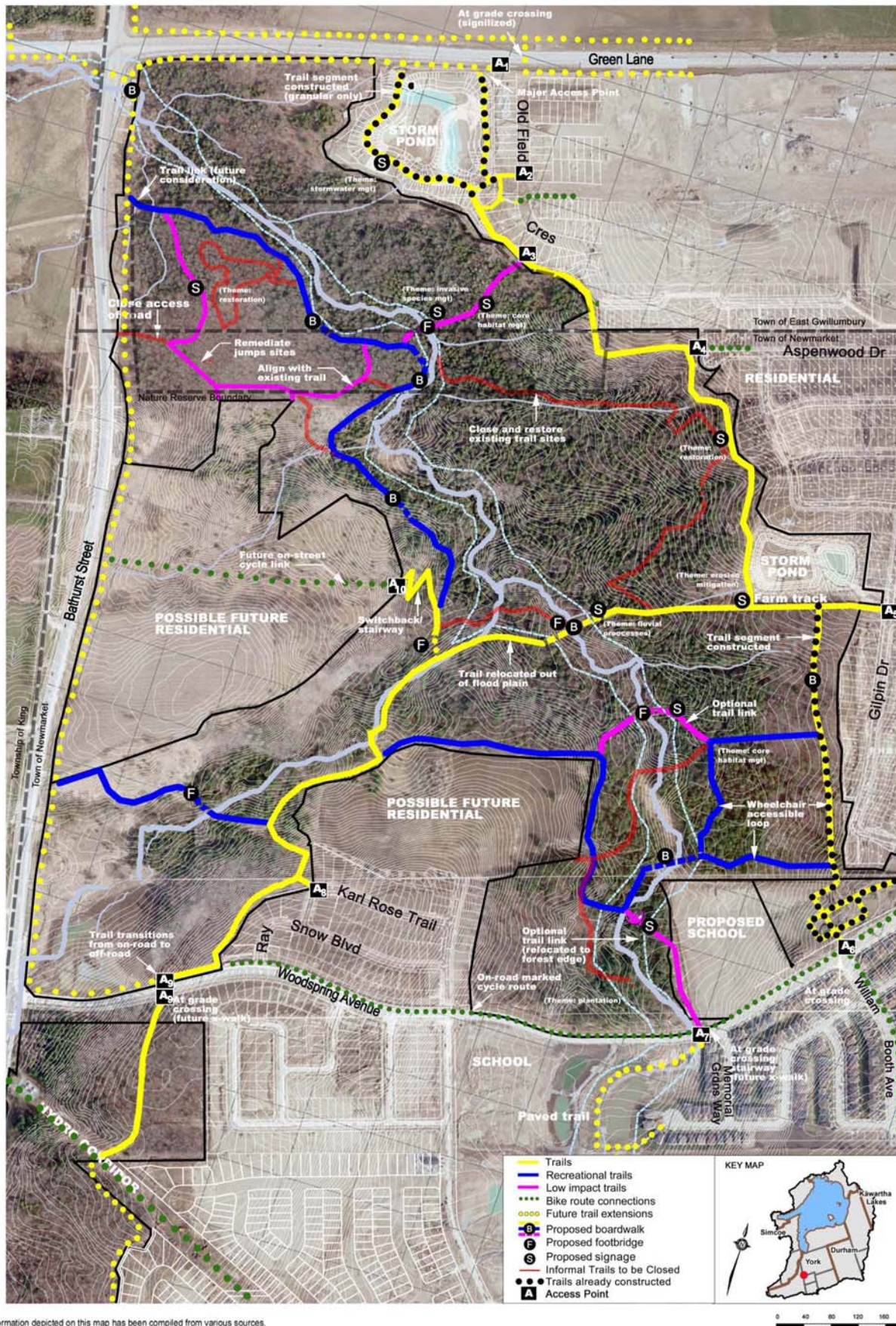


Produced by: Natural Heritage and Forestry Services
Environmental Services Department
© Copyright, The Regional Municipality of York, March 2012

© Copyright, The Regional Municipalities of Durham
and Peel, County of Simcoe, City of Toronto
* Includes © Queen's Printer for Ontario 2003-2010



Peggy's Wood and Bathurst Area Forest – Trail Implementation Stages 1 & 2



The information depicted on this map has been compiled from various sources. While every effort has been made to accurately depict the information, data / mapping errors may exist. This map has been produced for illustrative purposes only.



Peggy's Wood Nature Reserve & Bathurst Area Forest

Management and Implementation Plans Executive Summary

Prepared for Regional Municipality of York, Town of East Gwillimbury, and
Town of Newmarket

Prepared by North-South Environmental Inc. with Schollen & Company and Ecometrix Inc.

March 2012

Acknowledgement

Management Plan

Consultant Team

Primary Consultant

North-South Environmental Inc.

Mirek Sharp (Project Manager)

Sarah Piett

Nancy Falkenberg

Sarah Mainguy

Leah Lefler

Richard Czok

Sub-consultants:

Schollen & Company Inc.

Markus Hillar

Mark Schollen

EcoMetrix Incorporated

Brian Fraser

Dean Fitzgerald

Project Steering Committee

Regional Municipality of York

Sandra Malcic (Project Co-ordinator)

Ian Buchanan

Town of East Gwillimbury

Gary Shropshire

Town of Newmarket

Ian Smith

Mark Agnoletto

Lake Simcoe Region Conservation Authority

Phil Davies

The Nature Conservancy of Canada

Todd Farrell

Implementation Guide

Consultant Team

Primary Consultant

North-South Environmental Inc.

Mirek Sharp (Project Manager)

Leah Lefler

Richard Czok

Sub-consultants:

Schollen & Company Inc.

Markus Hillar

Project Steering Committee

Regional Municipality of York

Barbara Davies (Project Co-ordinator)

Town of East Gwillimbury

Gary Shropshire

Town of Newmarket

Ian Smith

Mark Agnoletto

Lake Simcoe Region Conservation Authority

Phil Davies

The Nature Conservancy of Canada

Todd Farrell



INTRODUCTION

This area has long been known for its natural values. Identified as part of the Regional Greenlands System the study area contains the largest forest block within the Town of Newmarket, and headwater tributaries of the East Holland River. This north-south corridor provides significant opportunity for natural heritage protection and public passive use and enjoyment.

As land use plans for this area were being considered, including the need for an east-west arterial road through this part of the Town of Newmarket, the woodland became the subject of multiple studies including the Northwest Newmarket Secondary Plan Area Open Space Management Plan and Trail System (Stantec, 2005). These studies sought to delineate the natural features, and determine appropriate areas for preservation or future development. Thus there is a significant amount of data on the vegetation, flora, fauna and fisheries of the general area, including the study site, as well as evaluations of areas with the greatest natural heritage value. Several of these studies recommend a management plan be developed in order to ensure the existing quality of the woodland be maintained in the future, as the surrounding lands become developed.

These lands are now protected in public ownership through:

- receipt of Peggy's Wood Nature Reserve, a 17 hectare donation from the Dunlap and Robarts families, through the Nature Conservancy of Canada (NCC) to the Regional Municipality of York;
- a two hectare parcel of land on the east side of Bathurst which was acquired by York Region through road expansion; and,
- commitment demonstrated by the Town of East Gwillimbury and Town of Newmarket by protection of lands through the land use planning process.

In an effort to preserve the ecological values of the site the three land owners (Regional Municipality of York, Town of East Gwillimbury and Town of Newmarket) entered into discussions to develop an approach for long-term protection and management of the area. Recognizing that lands surrounding the study area have become heavily populated it was also important for both protection of natural resources and an enjoyable trail experience that a trail system be a strong component of this plan.

STUDY AREA

An assemblage of 97 hectares was reviewed as the study area. Approximately 83 ha of this are considered woodlands. These lands are located primarily in the northwest corner of the Town of Newmarket, with the northern section of the woodlands being within the Town of East Gwillimbury, both being within the Regional Municipality of York. The entire site is within the jurisdiction of the Lake Simcoe Region Conservation Authority (LSRCA). The main block of woodland is bounded by Bathurst Street on the west, Green Lane to the north and Woodspring Avenue to the south. The lands immediately to the east are currently being developed as residential subdivisions. Two parts of the study site extend south of Woodspring Avenue, one along the east branch of a watercourse that traverses the site, and another immediately south of Woodspring Avenue, adjacent to Bathurst Street (see Figure 1). There are also two large "inclusions" on the perimeter of the site, one adjacent to Bathurst Street and another adjacent to Woodspring Avenue, which are slated for future development.



PLAN DEVELOPMENT

To initiate the process of developing the Peggy's Wood and Bathurst Area Forest Management Plan and Implementation Guide a technical steering committee was established consisting of the Town of East Gwillimbury, Town of Newmarket, Lake Simcoe Region Conservation Authority, the Nature Conservancy of Canada and Region staff.

These lands are a valuable public asset, for both its natural heritage values and recreational opportunities that it provides. It is important that the public have opportunities to access the site and enjoy this unusually high quality natural environment so close to their homes. However, many of the ecological characteristics that make these lands so attractive are sensitive to over-use, and the potential exists for degradation of the features that draw people. As nearby populations increase more people are drawn to it, and as new trends in recreation emerge, new management needs and refinements arise. It was therefore important to develop a Vision and Stewardship Principles to communicate the intent for the protection of these lands and ensure consistency in future protection, management and stewardship.

Substantial ecological and trails related information is available on the study area. Gaps in information were identified and specific field studies took place to provide a thorough data set of information for analysis when determining management recommendations and a trail system. Ecologically the review determined that the woodlands in the study area are the largest contiguous woodland in the Town of Newmarket. It is in good condition and supports a high diversity of communities and species. The ecological integrity of the site can be summarized as follows:

- overall, the study area is in surprisingly good condition, especially in the context of a woodland that is located within an urban area;
- the woodland has relatively few tracks and trails;
- the woodland is large enough to support interior woodland conditions;
- the woodland supports bird species that require relatively large forested areas (area-sensitive species), although these may be in decline;
- there are relatively few non-native plants in the woodland areas;
- there are some very old trees (as much as 160 years old) within the woodland area that may qualify parts of this woodland as "old growth";
- the woodland qualifies as a significant woodland using the regional criteria;
- there is a relatively high diversity of vegetation communities, plant, and bird species richness, thus the study area can be said to have high biodiversity values;
- there is one provincially significant, and a good assemblage of regionally significant, plant species; and
- the watercourses that traverse the study area are in good condition and contain seepage areas that contribute to water quality and possibly to downstream fish habitat.

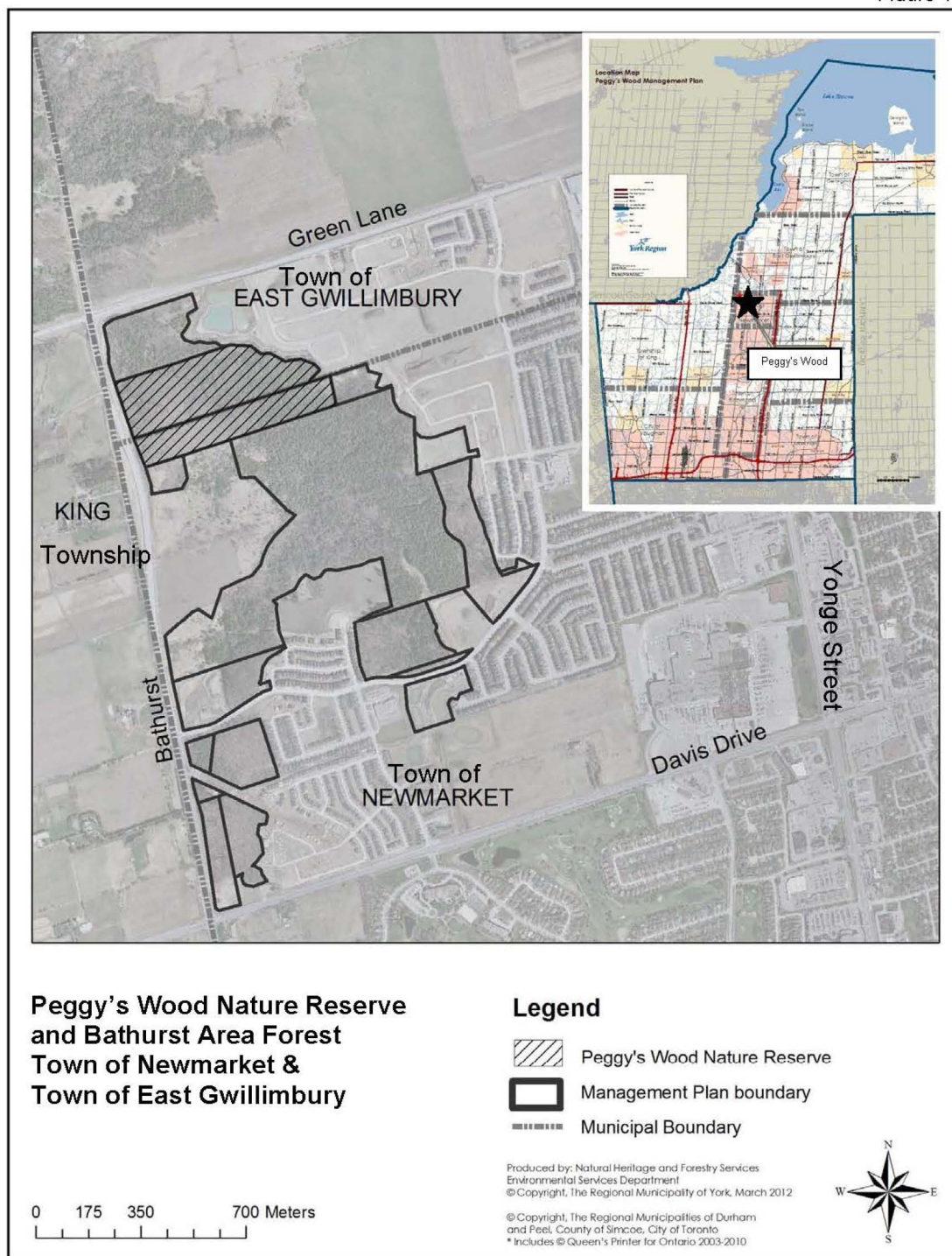
The ecological information was reviewed in combination with, the Northwest Newmarket Secondary Plan Area Open Space Management Plan and Trail System (Stantec, 2005) and, current use patterns to determine an appropriate trail network and set of management recommendations.

In February of 2009 the draft Interim Management Plan report was posted on the York Region website for comment followed up by a public information centre in April of 2009 to present draft issues, management recommendations and a proposed trail system. Attendance included local residents and political representatives from both the Town of East Gwillimbury and Town of Newmarket. In 2010, the draft Plan was prepared for Peggy's Wood and Bathurst Area Forest Management Plan (North-South Environmental Inc. 2010).



The focus of the Management Plan is on management recommendations and guidelines for design, operation management and monitoring. To assist the parties responsible for these lands in prioritizing, funding and planning for implementation a second companion document called the Peggy's Wood and Bathurst Area Forest Implementation Guide was developed with input from the original technical steering committee.

Figure 1



MANAGEMENT PLAN

The Management Plan recommends a Vision to guide the long term use and management of the study area and provides stewardship principles to expand on the Vision and give greater direction for long term management.

The Vision

To provide in perpetuity for the public use and enjoyment of Peggy's Wood and Bathurst Area Forest, while recognizing the primacy of preserving and enhancing biodiversity and ecological function. Inherent in this Vision is recognition of:

- ❖ *the value of Peggy's Wood and Bathurst Area Forest for passive outdoor recreation;*
- ❖ *the value of teaching wise stewardship through active involvement in protection and management activities;*
- ❖ *the responsibility of the community, through stewardship, to preserve biodiversity and ecological functions for the well-being and enjoyment of present and future generations; and*
- ❖ *that the Nature Reserve be respected as being integral to protecting biodiversity and the ecological integrity of the area, consistent with the wishes of the land donor and the requirements of the Ecological Gift Donation.*

Peggy's Wood and Bathurst Area Forest is in relatively good condition from an ecological perspective. Because of this, there is no need for intensive management and in general it is recommended that the area be allowed to evolve and mature with minimum intervention. The management recommendations provided are relatively discrete and are generally a result of impacts associated with the gradual urbanization of the surrounding lands. It is well known that urbanization of lands adjacent to natural features will result in a host of impacts, some of which are unavoidable. Effects of recent and future development are not yet fully known for this area, and thus monitoring should be undertaken to identify additional, future management needs.

Stewardship Principles

- Protect, and where possible, expand the existing area;
- Protect and enhance the integrity of existing woodland edges;
- Minimize intervention;
- Restore and enhance biodiversity;
- Maintain and improve connections to other natural features;
- Encourage and facilitate opportunities for outdoor recreation and learning;
- Allow only sustainable activities; and,
- Monitor.

Current Management Issues

The Management Plan identifies several management issues and suggests management and monitoring recommendations to address the following existing or potential problems.

- Siltation
- invasive non-native species
- edge management
- removal of temporary structures
- erosion
- management of largemouth bass
- hazard tree management
- maintenance of seepage areas
- impacts of over-use
- refinement of boundaries
- fisheries in up-stream storm water pond



Trail Plan

The Management Plan outlines a Trail Plan to provide enhanced recreational opportunities, neighbourhood connectivity, improved serviceability and all-season accessibility, encouraging the responsible use of the woodland by the community. The Trail Plan has been integrated into the overall management strategy for the woodland in order to prepare a balanced approach to trail design which establishes key connections while respecting ecological sensitivity. It is envisaged that potential future impacts resulting from increased use of the area will be mitigated through the implementation of a sensitively designed, functional trail system that accommodates demands for recreational use within the study area.

Ways in which trails can form an essential component of impact mitigation include:

- reducing potential impacts to ground flora from *ad hoc* trail creation;
- planning alignments that minimize compaction and preventing root exposure of trees;
- preventing erosion on slopes and near watercourses;
- enabling access to varied upland and lowland forest communities; and
- providing signage to help educate and generate respect and an understanding of the complex and fragile natural processes in the woodland.

It is envisaged that the trail network will provide signage as part of a stewardship program and educational strategy to reach out to casual trail users, school groups, summer camps and local interest/community groups. Routing low impact trails through the more sensitive areas provides more intimate experiences with the site, interpretive opportunities and should encourage environmental stewardship.

Education Strategy

A crucial component of any stewardship initiative is education. Most people are not well informed on issues of ecology and conservation biology nor is the history of site ownership and the donation made by the Dunlap and Robarts families through the NCC widely known. The impact of what may seem to be acceptable activities is not generally understood by the general public and in many cases impacts to natural areas is the result of naivety, and are not malicious acts. Because of this, providing opportunities to educate the public, especially nearby residents and school children who are likely to be the most frequent users of these lands can contribute substantially to sound long-term stewardship. The Management Plan provides specific recommendations for educational opportunities.

Permitted Uses

Owing to the sensitivity of these lands and the potential for impacts from over use, the Management Plan proposes that except for sanctioned maintenance, monitoring and/or rehabilitation activities, all uses within these lands should be limited to trails. No off-trail use by the public should be permitted. In general, permitted uses are limited to low-impact recreational activities, such as walking, hiking and nature appreciation.

Maintenance and Monitoring Plan

A summary of issues for which monitoring is recommended is provided in the Management Plan, including monitoring activities, monitoring frequency, responsibility for monitoring, management response, etc. Monitoring activities are categorized as Construction/Development Monitoring (e.g., silt fence monitoring for adjacent developments), Ecological Monitoring (e.g., monitoring of invasive species), Permitted Use Monitoring (e.g., identification of unauthorized uses), and Trail Monitoring (e.g., tree hazards).



Recommendations for Implementation

Lastly, the Management Plan provides recommendations for implementation, including administration of long-term management, trail plan implementation considerations, proposed roles and responsibilities for implementation, financial strategy and cost estimate for implementation, and trail plan cost estimate assumptions. Guidance provided in the Implementation Strategy section of the Management Plan provided the foundation for the Implementation Guide.

IMPLEMENTATION GUIDE

In 2011, an Implementation Guide was prepared for the site (Peggy's Wood and Bathurst Area Forest Implementation Guide, North-South Environmental Inc. 2011), which provides guidance to the stakeholders responsible for managing these lands and gives direction on the implementation of recommendations provided in the Management Plan by identifying priorities, timing, and responsibilities.

Trail Implementation

A recommended strategy to guide the implementation of trails within these lands is provided to assist York Region and the Towns of Newmarket and East Gwillimbury in making decisions based on the anticipated benefits and cost considerations associated with the implementation and maintenance of each trail segment. High, medium and low priority implementation actions required to achieve the trail objectives of the Management Plan are described, and responsibilities are identified. A framework for sequencing and phasing implementation of each trail segment, along with an estimate of cost for implementation, is also provided.

Phasing

Criteria were developed to prioritize the implementation of trails, and a phasing plan was prepared by dividing the trail plan into segments that are anticipated to be fiscally achievable within each implementation phase. The trail implementation plan consists of the following:

1. Map: illustrates trail segments, bridges, boardwalks, trailheads and stairway structures (see figure 3 on page 8) ; and
2. Table: identifies capital cost, special considerations for construction, permits or approvals, parties responsible for implementation of each trail section, and details on special concern items for each trail segment.

Coordination

The proposed implementation of trails has been phased to provide practical linkages through the woodland to address the needs of new residents in the area as soon as possible, while protecting valued natural heritage features and functions. New trails will offer residents with planned routes that end at specified destinations. The establishment of these new trails will discourage users from developing their own paths through the woodland. It is of course expected that some informal trails will continue to be established and utilized over time; however, the implementation guide includes on-going actions necessary to ensure that informal trails are monitored, closed or rotated to minimize disturbances to ecological features and functions.

Other considerations reviewed in the implementation guide include:

- construction sequencing to minimize impacts to woodland;
- equipment staging requirements; and
- signage and communication requirements.



Environmental Management

Peggy's Wood and Bathurst Area Forest is in relatively good condition from an ecological perspective; however, several management issues were identified in the Management Plan that need to be addressed. An Environmental Management Implementation Plan was prepared to guide the implementation of management recommendations that are required to assist the stakeholders responsible for these lands in mitigating the impacts identified in the Management Plan. This Environmental Management Implementation Guide:

1. reviews recommendations made in the Management Plan;
2. provides an update on the status of each management issue and associated management recommendation; and
3. provides a timeline for addressing each impact.

A prioritization exercise was completed to determine the relative importance of each management recommendation for the ecological integrity of these lands. Impacts perceived to have high ecological impact, were widespread and likely to spread were considered to be of highest priority in terms of management. Management activity priority, timing, opportunities for education and stewardship, estimated labour cost, estimated material cost, and total estimated capital cost, interim management requirements, and clarification of responsibility for implementing management recommendations was provided for each individual management recommendation, under the following management categories:

- siltation;
- invasive species;
- edge management;
- removal of structures;
- erosion; and
- hazard trees.

Monitoring Plan

Monitoring is a critical component of any management plan as it provides information on the state of natural resources and allows for the evaluation of management actions. In general, monitoring is completed to (1) determine if management objectives have been achieved, (2) determine if specific management actions are producing desired effects, and (3) assess trends in indicators that characterize the state of an ecological system. All of these have a general goal of evaluating the effectiveness of management activities to retain or restore ecosystem health. The Implementation Guide summarizes recommended monitoring activities, monitoring frequency, responsibility for monitoring, data storage and management requirements and suggests the organization(s) that are best suited to respond when management action is warranted. Construction and post-construction monitoring requirements are also outlined in the Implementation Guide.

CONCLUSIONS

The Management Plan and Implementation Guide have been prepared to assist York Region and the Towns of Newmarket and East Gwillimbury with managing the natural heritage features and functions, while providing local residents with recreational opportunities. The Management Plan and Implementation Guide will assist in attaining the Vision, consistent with the Stewardship Principles established in the Management Plan. Specific guidance has been provided for phasing trail implementation and the implementation of environmental management measures, and clarification of the responsibility for implementation has also been identified to ensure that these lands are managed in an environmentally sustainable way in the long term.



Figure 3. Trail Implementation Phasing Plan

