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YORK REGIONAL FOREST HAZARD TREE MANAGEMENT STRATEGY

The Transportation and Works Committee recommends the adoption of the recommendation contained in the following report, August 24, 2007, from the General Manager, Roads:

1. RECOMMENDATION

It is recommended that the York Regional Forest Hazard Tree Management Strategy dated July 2007 (*Attachment 1*), be endorsed by Regional Council.

2. PURPOSE

The purpose of this report is to seek endorsement of the York Regional Forest Hazard Tree Management Strategy.

3. BACKGROUND

The Region owns and manages 2,100 hectares (5,189 ac.) of York Regional Forest. The properties have been in public ownership for many years; with some dating back to the 1920's. The Regional Forest consists of 20 properties and includes over 120 kilometres of mapped forest access roads and trails which are open to the public for recreational activities. Approximately 70km of access road are driveable for operations and emergency vehicles. Staff from the Natural Heritage and Forestry Services section are responsible for the management of the Regional Forest, including silvicultural management and maintaining a safe environment for public use.

At its meeting on May 25, 2006, Regional Council adopted Clause 2 of Report No. 6 of the Transportation and Works Committee titled Status Report - Red Pine Decline and Hazard Tree Management, York Regional Forest, which directed staff to prepare a draft Hazard Tree Management Strategy for the Regional Forest.

Hazard tree management in public forests and park areas has received significant attention since a fatality in 2004 at the Royal Botanical Gardens in Burlington. A coroners' inquest into this fatality identified 18 recommendations relating to hazard tree management in public forests and parks (*Attachment 2*). In response to this incident, several agencies responsible for the management of public lands are reviewing and updating their hazard tree management strategies and policies.

Recent events in the York Regional Forest, including the emergence of a disease called Red Pine Decline, and windstorm damage in 2006, have raised the profile of hazard trees. In 2006, a hazard tree removal program was implemented to address the significant number of hazard trees created by Red Pine Decline. In total, 2,500 hazard trees were removed along trails in five forest tracts. Although steps have been taken to proactively manage Red Pine Decline, it is expected to be an ongoing concern within the Regional Forest as red pine areas continue to mature. In addition, a significant wind storm damaged portions of the Regional Forest during 2006. The storm resulted in several large areas of destroyed trees and the creation of hazard trees along trails. Portions of the Eldred King and Scout Tracts were closed for an extended period of time while the damaged area was cleaned-up and hazard trees removed.

A hazard tree is defined as a tree that has become unstable creating an unsafe situation where all or part of the tree could fall striking a person or property.

3.1 Annual Forest Management Activities

In 1998, Regional Council adopted a 20 year Forest Management Plan for the Regional Forest. The 20 year plan sets the goals and objectives for the management of the Regional Forest. Operational activities including selective logging, tree planting, and trail improvements, are subsequently identified in Operating Plans which are developed on a five year cycle.

Management of the York Regional Forest is delivered on an annual basis through several activities. Silvicultural management (logging, tree planting, etc.) of the forest is delivered each year by staff with the assistance of a professional forestry services consultant and a logging contractor. Forest areas requiring silvicultural management are inspected to document the current forest conditions and determine the appropriate management activities. All forest operations are monitored and documented on a regular basis throughout the year.

Property maintenance activities are also completed throughout the year using full time staff, summer students, and contracted services. Two students are employed in the summer to assist with the maintenance and operation of the Regional Forest. Student duties include weekly garbage pick-up, parking lot inspection, and maintenance of fences, gates, signs, and trails. Through a partnership with the York Environmental Stewardship, the Region is able to access an Ontario Stewardship Ranger Crew for six days each summer. During the months of September to April, garbage is picked up every two weeks and other property maintenance is completed by full time staff and contracted services as required.

3.2 Current Hazard Tree Management Practices

Hazard trees are currently managed using a variety of resources and approaches. Each year a contractor or staff person inspects driveable (high use) trails and removes fallen logs and other obvious high risk hazards. In addition, the Region's contact information is available through signage in the forest to direct users to contact us to pass on issues or

concerns. Staff responds to information received from users such as the Regional Forest Advisory Team, the Oak Ridges Trail Association, and the general public. Hazards are removed by staff or contractors as required.

A significant component of hazard tree management is implemented through the annual tree harvest (logging) contract. As the harvest contractor works in different forest tracts each year, all hazard trees are identified in those specific tracts and are removed during the annual harvest activities. This has been a cost effective approach, making use of on site available equipment and resources.

3.3 Development of a New Hazard Tree Management Strategy

A review of the current Regional Forest hazard tree management identified opportunities to better document our process and improve practices. The development of a strategy is seen as a proactive approach which demonstrates due diligence and ensures a safe environment for the public.

Development of a new hazard tree management strategy was completed by Natural Heritage and Forestry Services staff with the assistance of a professional forestry services consultant and a technical review team consisting of staff from:

- Lake Simcoe Region Conservation Authority
- Toronto Region Conservation Authority
- Ontario Ministry of Natural Resources
- York Region Legal Services
- York Region Risk, Policy and Treasury

The key components of the process included:

- Review of existing hazard tree management policies from other jurisdictions.
- Review of the recommendations from the coroners inquest.
- Consultation with the public through the Regional Forest Advisory Team.
- Development of acceptable hazard tree management inspection cycles and protocols.

4. ANALYSIS AND OPTIONS

The process undertaken by Natural Heritage and Forestry Services staff to develop a new Hazard Tree Management Strategy was comprehensive. The strategy was reviewed by the Technical Review Team at critical steps during its development.

4.1 Key Strategy Components

The Hazard Tree Management Strategy addresses several key items identified during the review of existing policies, including:

- Providing a definition of a hazard tree.
- Defining the responsibility for implementation.
- Undertaking a review of risks posed by hazard trees.

- Establishing priorities of hazard tree inspection and abatement.
- Defining an implementation schedule and strategy review cycle.

Implementation of the strategy will be the responsibility of the Natural Heritage and Forestry Services section. To assess the level of risk associated with hazard trees, the Regional Forest has been divided into two categories, high use and low use, based on the level of public use, and adjacent land use. In addition, unique features (i.e. parking lots, buildings) and the public forest events were given special attention in the context of developing the hazard tree strategy.

To prioritize hazard tree management in the Regional Forest, staff reviewed three options for inspection cycles for trails in high and low use forest tracts. The review considered risk reduction and the took into consideration the resources required for implementation. Three options relating to intensity (schedule) of inspection were considered:

Option 1 (as proposed in Attachment 1)

- High use – inspected trails every two years.
- Low use – inspected trails every four years.

Option 2

- High use – inspected trails every year.
- Low use – inspected trails every two years.

Option 3

- High use – inspected trails every year.
- Low use – inspected trails every year.

In addition to trails in high and low use forest tracts, for unique areas such as parking lots, and ponds where people congregate, it is proposed that these areas will be inspected annually. The strategy also defines inspection protocols for concerns raised by forest users and in preparation for forest events. Staff from the Risk, Policy and Treasury Branch assessed these schedules, participated in the discussions, and support the approach put forward in Option 1.

It is proposed that the Strategy will be reviewed as necessary and updated on a five-year cycle.

4.2 Resources Required

Implementation of a Hazard Tree Management Strategy will require the re-distribution of existing resources and the allocation of additional funds for hazard tree inspections and abatement. Hazard tree management inspections will be completed along designated trails in each of the forest tracts and can be completed by one qualified person.

Inspections take approximately one hour per kilometre to complete. Based on field trials, it is estimated that there could be up to 35 hazard trees per kilometre of forest trail. The

cost of past hazard tree abatement operations have varied between \$20 and \$350 per tree. Based on the size and condition of hazard trees in the Regional Forest and staff past experience and knowledge, the average cost for abatement is estimated at \$35 per tree.

When considering Options 1, 2 and 3 it is also recognized that there is an increase in the level of staff activity and presence in the forest. The added benefit of this increased presence is the public perception of a higher level of customer service, and a better understanding and appreciation by staff of the forest and its management challenges and issues.

4.2.1 Inspection Frequency – Option 1

Implementation of Option 1 will require 10 -15 working days to complete the annual inspections. It is estimated that the yearly cost to abate the identified hazard trees may be as high as \$80,000 per year.

4.2.2 Inspection Frequency – Option 2

Implementation of Option 2 will require 20 -30 working days to complete the annual inspections. It is estimated that the yearly cost to abate the identified hazard trees may be as high as \$160,000 per year.

4.2.3 Inspection Frequency – Option 3

Implementation of Option 3 will require 35 - 40 working days to complete the annual inspections. It is estimated that the yearly cost to abate the identified hazard trees may be in excess of \$250,000 per year.

4.3 Assessment of Options

Inspections for Option 1 (Table 1) can be completed through the existing Natural Heritage and Forestry Services staffing resources. Based on the estimated number of hazard trees, cost of abatement, and kilometres of trail, the implementation of Option 1 will require an additional \$40,000 annually to abate the identified hazard trees.

Staff will explore recovering a portion of the abatement costs through the sale of forest products (logs) from hazard trees. It is important to note that the number of hazard trees will significantly decrease after one full inspection cycle has been completed also reducing workload. This will reduce the budget demand after the initial three years, notwithstanding catastrophic events such as fires, insect infestation, storms etc.

Implementation of Option 2 and 3 require a more frequent inspection of forest trails. The costs associated with this increased inspection frequency and abatement needs are significantly higher while the associated reduction in level of risk is disproportional. Option 2 will require an additional 10 – 15 days staff time and \$160,000 in funding to implement, while Option 3 would take a staff person 2 months for inspection, and abatement may cost in excess of \$250,000.

Table 1
Assessment of Inspection Cycle Options

Inspection Cycle Option	Annual Inspection Cost	Annual Abatement Cost*
Option 1	10 – 15 working days	\$80,000
Option 2	20 - 30 working days	160,000
Option 3	35-40 working days	>\$250,000

* Note: \$40,000 of existing funding is currently allocated to the abatement of hazard trees.

Staff recommends the adoption of Option 1 as reflected in the proposed Hazard Tree Management Strategy (*Attachment 1*). The inspection and abatement schedule is seen as reasonable given the level of use and risk. This approach balances use with an acceptable level of customer service and risk due diligence.

4.4 Implementation

Implementation of the Hazard Tree Management Strategy will begin with inspections in late 2007 and be fully implemented in 2008. It is proposed that existing staffing and resources currently supporting the current ad hoc hazard tree management will be re-allocated to support this initiative. However, additional funding of \$40,000 will be requested in the 2008 budget. The strategy includes an implementation schedule that identifies when each forest tract will be inspected. It is anticipated that this schedule will be incorporated into the York Regional Forest Five-Year Forest Operating Plan.

4.5 Relationship to Vision 2026

The management of the York Regional Forest will continue to support Vision 2026 and such key goal statements as:

“In 2026, York Region will have grown at a pace that supports healthy communities, economic vitality, sustainable natural environment and effective human services.”

The management of the Regional Forest strengthens the Region’s commitment to focus on Vision 2026 actions areas including:

- Securing a Green York Region.
- Ensuring clean water, air and promoting conservation.

5. FINANCIAL IMPLICATIONS

The development of the York Regional Forest Hazard Tree Management Strategy was completed within the existing Natural Heritage and Forestry Services budget. Implementation of the strategy will be completed through a combination of staff and contracted services. It is proposed that annual inspections will be completed by existing Natural Heritage and Forestry Services staff and budget through a consolidation and re-allocation of funds and resources associated with the existing hazard tree program.

Abatement of identified hazard trees based on Option 1 will require an additional \$40,000 annually. It is proposed that \$40,000 be included in the 2008 Forest Operations budget. It is anticipated that the required resources will decrease significantly in 2011 once a full hazard tree inspection cycle has been completed.

6. LOCAL MUNICIPAL IMPACT

Local municipalities manage forest properties similar in nature to the York Regional Forest. Copies of the Hazard Tree Management Strategy will be forwarded to local municipalities for information.

7. CONCLUSION

In recent years, management of hazard trees in public forests and parks has received increased attention. To ensure due diligence, further document our practices, and to maintain a safe environment for forest users, a practical Hazard Tree Management Strategy has been developed for the York Regional Forest. The strategy was developed with key technical input, in consultation with our partners and the public and considers the recommendations of the coroners report into the fatality at the Royal Botanical Gardens. Staff recommends that the attached York Regional Forest Hazard Tree Management Strategy be adopted (*see Attachment 1*).

For more information on this report, contact Brian Harrison, Director, Operations, Roads Branch at extension 5205 in the Transportation and Works Department.

The Senior Management Group has reviewed this report.

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