STRATEGIC FOREST MANAGEMENT PLAN

2020 SUMMARY

Conservation Halton

Conservation Halton has been a manager of forests within its watersheds since its inception in 1963, and before that as the Sixteen Mile and Twelve Mile Creek Conservation Authorities. For more than 50 years the Authority has protected, restored, managed, and planted forests in the Halton watershed; more than 4 million trees have been planted over our watershed of largely forested lands protected through ownership and contributing toward the delivery of more than 24.71% forest canopy cover across the watershed.

The 2020 Strategic Forest Management Plan reflects the ongoing evolution of Conservation Halton and establishes a context for the next 20 years of our role as a leader in sustainable forest management. The Plan:

- Takes a landscape approach to forest management, focusing more on the landscape scale and management of our forest resource
- Re-establishes a commitment to sustainable management practices that place forest health as the principal outcome
- Highlights the key pressures and challenges that our forests face from both global and local activities, and how these can be addressed
- Supports Conservation Halton re-engaging in active, sustainable forest management, to ensure that the current challenged condition of our forests is addressed
- Takes an accountable approach to forest management with Key Performance Indicators
- Re-defines a commitment to excellence and leadership in forest management

Our mission is to sustainably manage Conservation Halton's forests in a changing climate while ensuring healthy, resilient, and productive forests for the benefit of our environment and watershed communities. Conifer plantations will continue to be managed with the intent of conversion to natural mixed hardwood stands and, where possible, selected mixed hardwood stands will be managed to include old growth forest characteristics.

In summary, the Plan identifies a 20-year vision, delivered through a rolling five-year outlook of activities that address three goals to be achieved through the Plan implementation:

GOAL 1:
To improve forest health conditions using current and future accepted methodologies and science.

GOAL 2:
To maximize the value of our forests in delivering environmental goods and services, social and health benefits, and enhanced forest diversity.

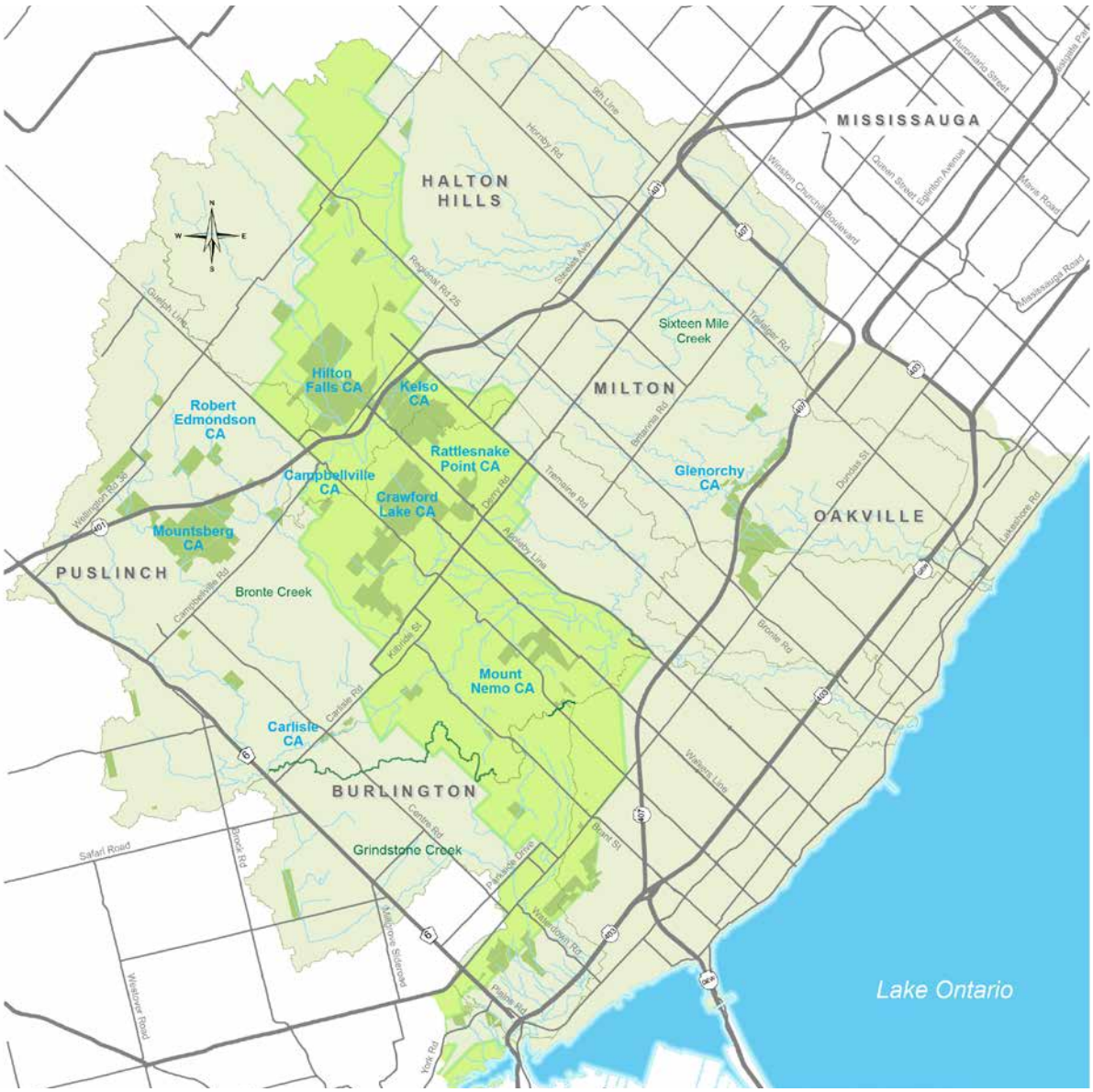
GOAL 3:
To maintain and, where possible, increase forest cover across our watershed through afforestation of Conservation Halton land acquisitions and on private, municipal, and corporate lands, and through public education and landowner outreach programs.

BACKGROUND

Our watershed:

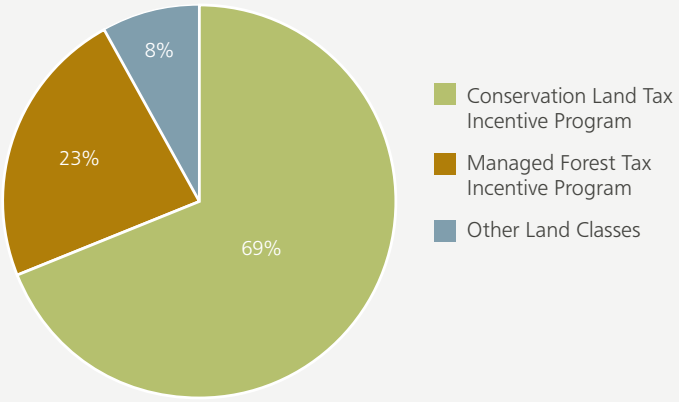
The natural systems within our watershed are essential for clean air, safe water, healthy ecosystems, biological diversity, climate change resilience, and flood and erosion control. It is our mandate to protect and restore the lands, forests, and water features needed to support these natural systems and maintain the features and functions that promote the environmental integrity of our watershed. We work to conserve the landscapes that create opportunities for recreation and tourism and the landmarks that define our natural, cultural, and indigenous heritage.

Conservation Halton owns and manages more than 10,840 acres of land across its watersheds. These lands represent a diverse mix of habitats and woodlands, with over 63% being forested.

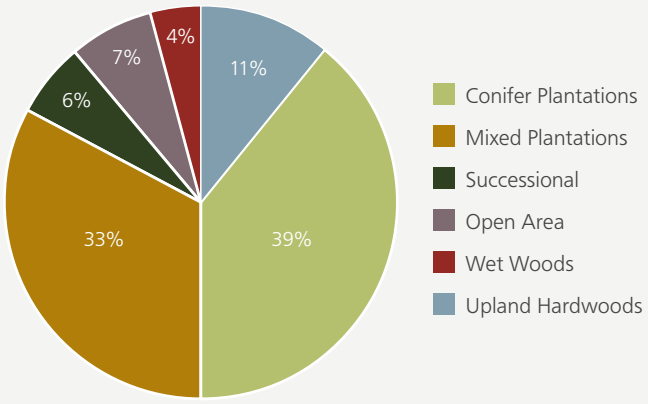


Of this land, 69% is classified as Conservation Land Tax Incentive Program (CLTIP) and 23% is under the Managed Forest Tax Incentive Program (MFTIP). Within the MFTIP area, coniferous (39%) and mixed (33%) plantations make up the bulk of the forest.

Conservation Halton holdings by land class type



Conservation Halton MFTIP holdings by forest type



Policies:

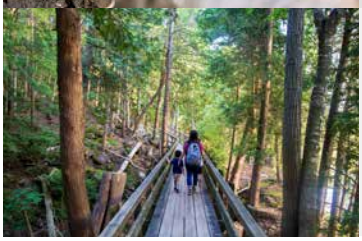
Forest management planning and prescriptions for Conservation Halton are compliant with federal and provincial Acts and policies, as well as municipal by-laws and internal Conservation Halton policies and regulations (refer to Table 1 in the SFMP for the full list).

Ecosystem services: our forests provide many benefits to us and the environment. They include:

Carbon sequestration and storage: as trees photosynthesize and grow, they take carbon from the atmosphere into their biomass, where it is sequestered until the tree breaks down

Watershed services: forests help regulate our watershed by filtering run-off into water courses and helping the land absorb more water. This reduces flooding, regulates erosion, and protects the habitat of aquatic biota.

Wildlife habitat and biodiversity: forests provide key habitat for many species of mammals, birds, insects, fungi, trees, and plants. Maintaining diverse forests helps to conserve these species.



Recreation and health: outdoor recreation provides substantial health benefits (both physical and mental), especially in densely populated areas such as the Halton Region.

Forest health:

Forest health and resilience can be maintained or improved by sustainable forest management. Our forests are often in a less than ideal condition due to a variety of reasons.

Forest fragmentation is widespread throughout southern Ontario due to increasing development and urban sprawl. It reduces genetic diversity and natural species regeneration across a broad geographical area.

Abiotic stressors, such as extreme weather events, shallow soils, increasing temperatures, precipitation and lack thereof, all decrease forest health and resiliency.

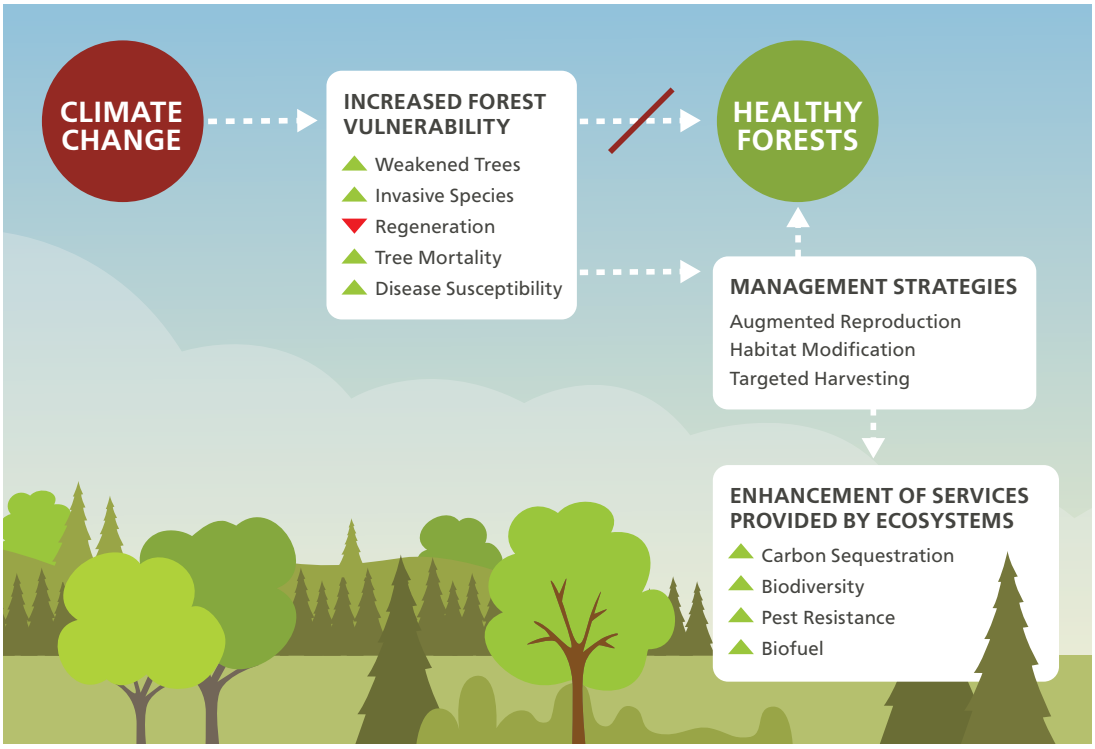
Invasive plants that become established in a forest can out-compete native vegetation and dominate the understory. The most common invasive plants in our watershed include garlic mustard, dog-strangling vine, buckthorn, and multi-flora rose.

Invasive insects and pathogens often result in tree mortality, creating hazards in our woodlands. Emerald ash borer, spongy moth (formerly LDD moth), butternut canker, and beech bark disease are severely impacting our forests.

Heavy recreational use can result in species loss, erosion issues, and a conduit for invasive species. New types of recreational activities, such as forest foraging, are causing the decline of desirable plant and mushroom species.

Climate change effects on forests

Climate change, increasing development, and population growth in the Halton Region will only increase these pressures, highlighting the importance of sustainable forest management to protect and preserve the valuable forest ecosystems in our watershed.



To monitor forest health over time and evaluate trends, we have identified a set of robust metrics and corresponding goals for assessing forest health.

Metric	Description	Goal
Growing stock condition	Acceptable growing stock (AGS) are healthy, robust trees. Unacceptable growing stock (UGS) are trees that have a high risk of dying and are expected to decline over the next cutting cycle (15–20 years).	**70% AGS and 30% UGS at the stand and landscape level**
Desirable natural regeneration prior to thinning operations	Forests that are adequately stocked have the capacity for sustainable regeneration.	**1000–3000 stems per hectare**
Invasive species, forest pests and diseases	Approaches and priorities developed based on abundance, habitat, impact, future threat, and individual forest needs.	**Maintain or ideally reduce the abundance of these populations**
Species at risk (SAR)	All forest management planning will consider SAR protocols.	**Maintain all known SAR habitats and create more interior forest habitat**

Foundations of forest management:

Forest management proposals and stand prescriptions are reviewed by a Registered Professional Forester and internal staff to ensure that ecological and recreational values are properly recognized. This process, for a simple management operation, might take as little as 2–6 months; for a complex operation, this process could take five years.

Forest management at Conservation Halton is done in a sustainable manner that mimics natural disturbances and promotes old growth forests and interior forest habitat.

Sustainable forest management is the care and use of forests such that their environmental, social, and economic values are maintained into the future. We can use it to enhance our escarpment woodlands to improve forest health and resilience including maintaining characteristics for which lands are recognized, removing diseased and dying trees, promoting vigorous growth, thinning over-stocked areas, and proactively addressing potential hazards.

In the past, when our forests were an interconnected landscape, they would have been influenced by periods of natural deforestation due to disease, storm, and fire, and periods of forest renewal through natural regeneration. These processes created a complex matrix of diverse forest stands. Management that **mimics natural disturbances** creates and promotes diverse and resilient forests by emulating these natural processes. Our forests need to be managed in this way to remain healthy throughout climate change. It is not a choice; it is essential to the resiliency of our forests.

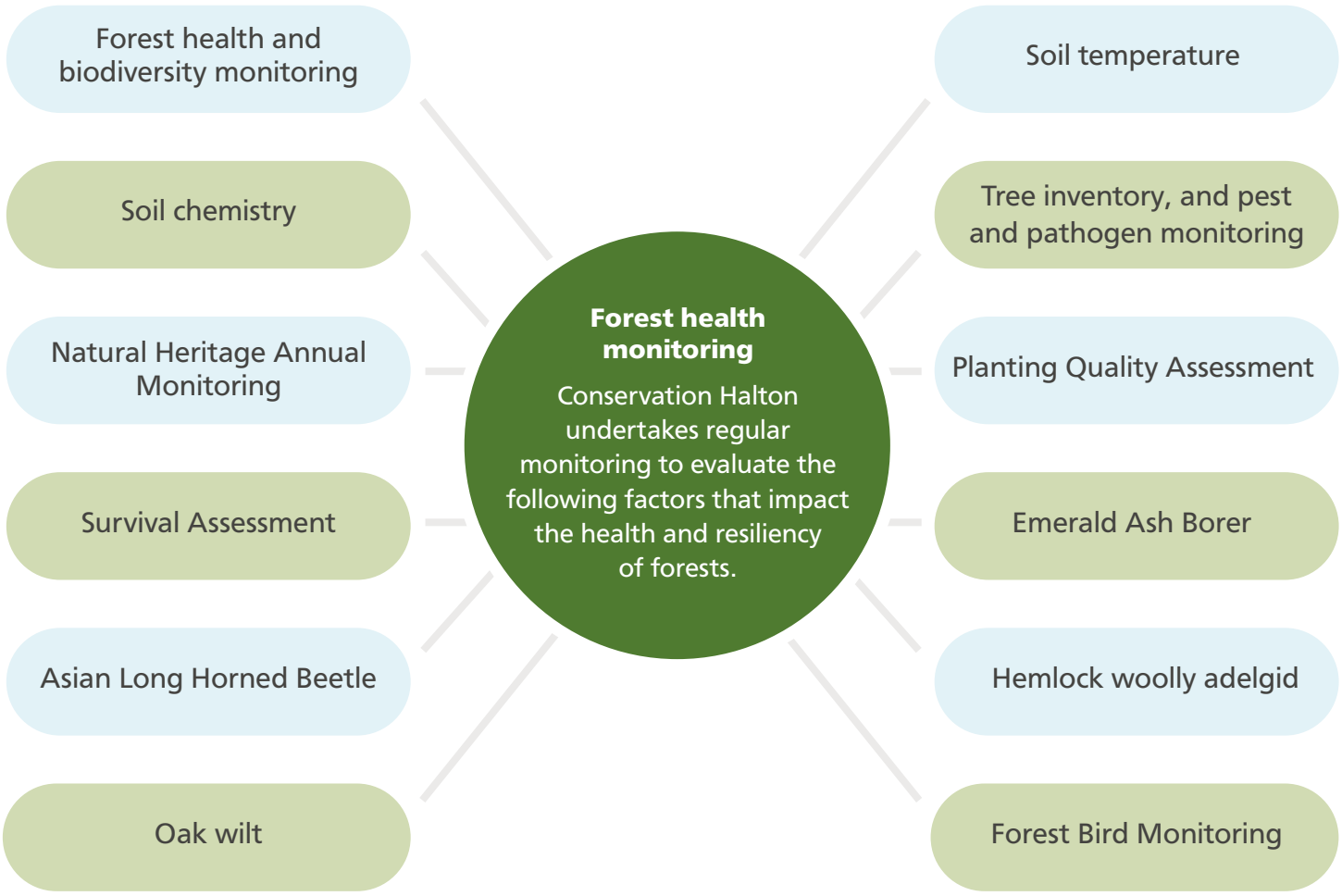
The MNRF characterizes **old growth forests** by high turnover of overstory trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and an abundance of snags and downed woody debris. **Interior forest habitat** is the inner area of a forest that is at least 100m in from the forest edge. Growing and enhancing the amount of old growth and interior forest habitat within the watershed signifies the quality of the forest ecosystem being provided. Conservation Halton will manage for old growth characteristics where possible.

Left: Staff using a voice directed tally system (VDTS)
Right: A seed tree marked in a plantation at a Conservation Area

Sustainable forest management for Conservation Halton must be based on the assumptions that: the climate will change with concomitant impacts on the forest, the introduction and impact of invasive species will continue and potentially increase, development pressures will continue and increase, and that recreational use of the forests will increase.

Management challenges and opportunities

- Structural & biological diversity
- Climate change
- Invasive species
- Hazard tree management
- Recreational use
- Development pressure



SUMMARY:

Conservation Halton will work towards the three goals laid out in the Strategic Forest Management Plan by implementing the recommendations described throughout this section. This 20-year Plan will be formally updated in 2040, by which time we will have improved forest health conditions, increased the value of our forests, maintained and, where possible, increased forest cover across our watershed.

GOALS AND APPROACHES

GOAL 1: To improve forest health conditions using current and future accepted methodologies and science.

	APPROACH	DESCRIPTION
1.1	**Sustainable Forest Management**	Identify a rolling schedule of forest management operations across Conservation Halton forested lands (plantation and hardwood forests).
1.2	**Invasive Species Management**	Conduct herbaceous invasive species inventory & update every 5 years thereafter.
1.3	**Forest Inventory**	Update forest inventory on all lands owned by Conservation Halton.
1.4	**Wildlife Habitat**	Improve and expand habitats and provide growth opportunities for Species at Risk.
1.5	**Monitoring**	Monitor during and post-harvest operations to ensure objectives for careful logging, forest health, regeneration and invasive species are delivered.
1.6	**Forest Information Management System (FIMS)**	Develop a collaborative tool for sharing forest inventory information across the Authority.
1.7	**Strategic Plan Implementation, Administration, and Partnerships**	Create and maintain internal and external partnerships.

GOAL 2: To maximize the value of our forests in delivering environmental goods and services, social and health benefits, and enhanced forest diversity.

	APPROACH	DESCRIPTION
2.1	**Standard Operating Procedures and Best Management Practices**	Develop Standard Operating Procedures for forestry operations.
2.2	**Wildlife Habitat**	Implement management options that preserve and create habitats and provide growth opportunities for species at risk.
2.3	**Invasive Species**	Monitor and treat invasive species throughout the watershed.
2.4	**Seed Forecasting and Collection**	Maintain an active seed forecasting and collection program and supply seed to local nurseries.
2.5	**Sustainable Forest Management**	Sustainable Forest Management operations that mimic natural processes, prioritize the removal of diseased trees, and consider alternative techniques.
2.6	**Climate Change Mitigation and Adaptation**	Stay updated on climate science to support and enhance a flexible forestry program that is responsive to climate change mitigation strategies.
2.7	**Value Matrix**	Develop a communication tool regarding the ecological service values of forests.

GOAL 3: To maintain and, where possible, increase forest cover across our watershed through the afforestation of Conservation Halton land acquisitions and on private lands, and through public education and landowner outreach programs.

	APPROACH	DESCRIPTION
3.1	**Land Securement Strategy**	Support the Land Securement Strategy and implementation thereof.
3.2	**Forestry Initiatives, Stewardship and Outreach**	Implement a program to support public and private landowner forestry initiatives.
3.3	**Internal Partnerships**	Support programs across Conservation Halton including the sourcing and supply of tree stock to partner departments.
3.4	**Sustainable Forest Management**	Monitor the survival and regeneration of new and old managed plantations and seek out new forest restoration opportunities.
3.5	**Outreach and Education**	Create events/workshops/social media posts to support the education and involvement of the public and other CH departments on relevant forestry topics and projects.

RECOMMENDATIONS

1	Update Forest Inventory to inform strategic forest management.
2	Continue to build, support, and develop relationships with partners and agencies where there is a joint benefit.
3	Develop and sustain meaningful relationships with First Nation, Metis and Indigenous partners that seek opportunities for increased engagement and mutually beneficial partnerships.
4	Support active land securement by building relationships with private landowners through landowner education regarding Ecogifts program and/or designate a percentage of timber revenues to the Land Securement budget.
5	Ensure that the 'value' provided by the forest infrastructure on Conservation Halton lands is reflected in the emerging asset management framework
6	Establish a dedicated Forest Reserve Budget to enable timber revenues to be dedicated toward the continued growth and improvement in Conservation Halton Forests.
7	Monitor and improve overall forest health and wildlife habitat throughout Conservation Halton forests.
8	Maintain current forest cover percentage through the management of the Conservation Halton forest and by working with watershed partners.
9	Promote private landowner tree planting programs to engage a wider community in the importance and value of forested landscapes.
10	Continue to support a vibrant local seed stock within southern Ontario nurseries by providing a reliable, local seed source.
11	Manage for long term forest health by promoting and utilizing Sustainable Forest Management principles and practices that meet or exceed current standards.
12	Identify and manage appropriate stands toward 'old growth' characteristics recognizing that the human environment surrounding our forests will rarely allow for true old growth forest
13	Build resiliency in our forests with climate change mitigation and adaptation by maintaining and enhancing forest science knowledge for forest management practices
14	Establish an Invasive Species Management Program and manage invasive and non-native plant species on Conservation Halton properties, where possible
15	Adopt leading practice through sustainable forest management to conserve and improve forest habitat for the benefit of Species at Risk
16	Maintain a responsive hazard tree program and reduce risk of hazard trees through proactive Sustainable Forest Management
17	Continue to monitor for forest pests and diseases, including invasive species, and establish greater interdepartmental collaboration on monitoring programs