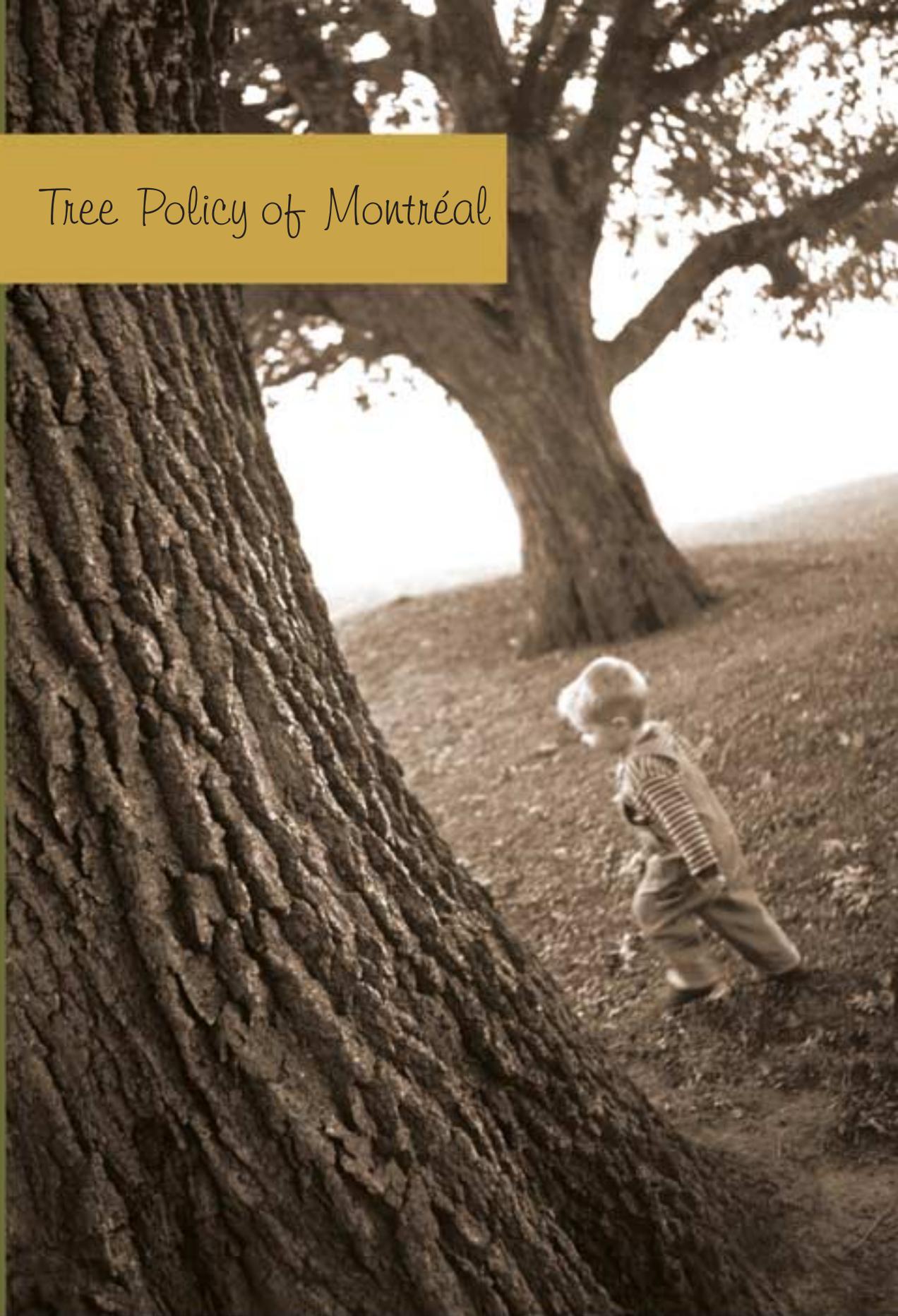


# Tree Policy of Montréal



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The *Tree Policy* follows in the wake of  
a commitment made at *Sommet de Montréal*.



*Printed on recycled paper*



For it was impossible not to be taken by the beauty of these young trees in full health.

Jean Giono, *The Man Who Planted Trees*







## MESSAGE FROM THE MAYOR

I am delighted to present to you the *Tree Policy of Montréal*, an important tool designed to help transform our City into a leader in matters of sustainable development.

This new tool joins the ranks of others with which we have equipped ourselves in recent months to enhance Montréal's green heritage. These tools include the City's Master Plan and Policy on the Protection and Enhancement of Natural Habitats, the Heritage Policy and Strategic Plan on Sustainable Development, as well as strategic planning and development initiatives—currently under way—pertaining to the enhancement of Montréal's blue and green network.

Do trees have a place in the city? The answer is a definite "yes". They lend personality to our streets, filter the air we breathe, act as sound barriers, and temper the glare of artificial lighting. Trees make the environment come alive, contributing handsomely to the quality of life characteristic of Montréal and currently the envy of many a metropolis. One need only imagine our city devoid of trees to fathom the extent our loss were we to fail to safeguard these important components of our natural heritage.

If it is true that the founders of Montréal were drawn to the island owing to the quality of the tree cover and attendant development potential, today we must ask ourselves how we can best conserve and enhance our arboreal reserve. Whatever their age, whether they line our streets or embellish our parks, all of our trees are deserving of our attention and respect. Such is the primary thrust of this new *Tree Policy*. As owner and manager of the island's arboreal heritage, the City of Montréal indeed intends to pave the way and demonstrate leadership in maintaining and developing this source of collective wealth.

Montréalers one and all—residents, businesses, institutions and organizations—take their trees to heart which is why we do not hesitate to call upon everyone to exercise the responsibilities incumbent upon them.

The *Tree Policy* enlightens us with respect to individual and collective action to be taken to ensure that Montréalers current and future live in a city where trees and greenery enjoy their rightful place. Citizens, it is up to you to make this Policy work.

A handwritten signature in black ink, reading "Gérald Tremblay". The signature is fluid and cursive, with the first name being more prominent.

Gérald Tremblay  
Mayor of Montréal





## MESSAGE FROM HELEN FOTOPULOS

It is with pride and joy that I today table the first ever *Tree Policy of Montréal*, a tool essential for ensuring the peaceful and fruitful coexistence of trees and human beings across the Island of Montréal.

According to an African proverb, "Human beings are walking trees". Are trees then to be considered motionless human beings? Less objects than subjects, more partakers than observers of urban life, trees are first and foremost living beings... partners and neighbours with whom we must coexist, negotiate and come to terms for the ultimate benefit of us all. We care for them as they care for us. We enhance their lives and they enhance ours in return. Together, we therefore ensure our mutual survival. For us to mistreat them, restrict their growth, or seek to eliminate them would doubtless be tantamount to ecological suicide!

Intended to complement the Policy on the Protection and Enhancement of Natural Habitats adopted in November 2004, this novel vision of the preservation and enhancement of Montréal's arboreal heritage proposes a more equitable, more effective sharing of the urban ecosystem by all island inhabitants.

Drawn up to facilitate Montréal becoming a genuinely green city, this Policy aims primarily to protect urban trees, to help them grow and multiply—especially in the more densely built-up central boroughs, to preserve and/or recreate the seamless flow of the forest cover from one City neighbourhood to the next, to support and harmonize the green-based endeavours of the boroughs, and to inform and involve the citizenry in preserving and enhancing these precious allies of vital and symbolic importance.

Following island-wide citizen consultation, we proudly present you with the eagerly awaited fruits of our labour. City and borough residents and public administrators alike must now collectively seek to ensure that the provisions of this Policy are properly enforced and that all stakeholders work together to protect and develop Montréal's arboreal reserve. Indeed, it is incumbent upon each of us to do our utmost to maintain a healthy urban forest if upcoming generations are to enjoy the quality of life to which they are rightfully entitled.

Helen Fotopulos  
Member of Executive Committee,  
Responsible for Mount Royal, blue and green spaces,  
parks, nature museums and women's issues



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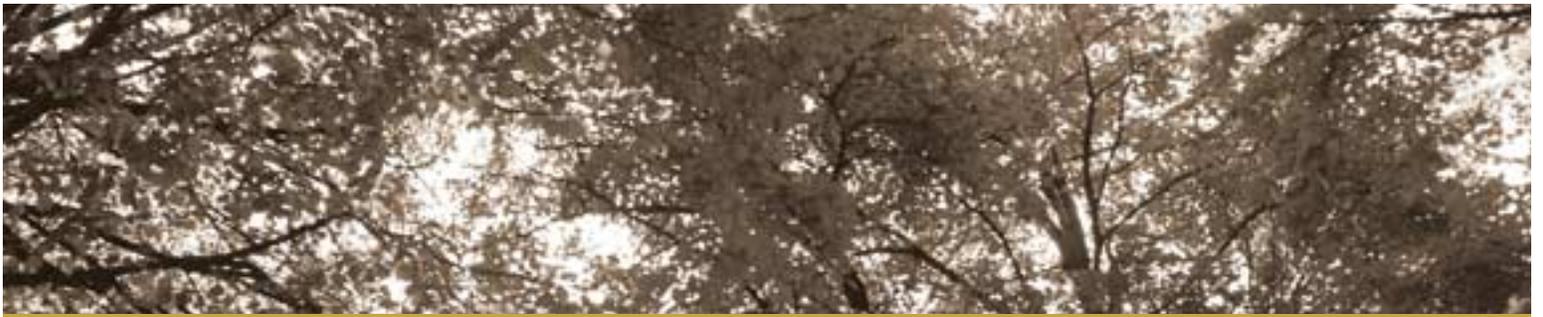
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## Foreword

# Trees in the City: Twinning community responsibility with collective enjoyment



Of all living beings, trees live the longest and grow to the greatest heights.

*January 1998. Montréal suffers an intense and devastating ice storm. Montréalers watch in horror as trees across the island bow and break under the weight of an increasingly untenable mantle of ice. From the shores of the Saint Lawrence to the banks of Rivière-des-Prairies, trees by the thousands sustain serious mutilation.*

### **Trees are living yet fragile beings**

This distressing episode left an indelible imprint in the minds of Montréalers. They witnessed first-hand the vulnerability of living beings many times larger and considerably longer-lived than themselves, providing proof positive that trees are not eternal. Rudely awakened to the oftentime harsh fate of their treasured companions, citizens came to realize that trees planted in cities are regularly subjected to numerous forms of stress. Urban life indeed provides trees with living conditions in the extreme which range from torrid heat in summer, to pollution in winter owing to the use of salt as a de-icing agent, to injury sustained during snow removal operations and a general lack of environmental citizenship.

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Urban trees provide a lasting and soothing sense of calm and harmony in a high-speed, high-intensity world.

### **Trees provide only benefits**

Montréalers also discovered how attached they had become to their trees, and rightfully so! The urban forest lends personality and charm to the City. Think for a moment of the stark monotony of a cityscape devoid of trees! Clearly, over and above adding a wealth of beauty to the City's urban fabric, Montréal's urban forest comes replete with a number of noteworthy benefits. Trees attract and provide habitat for birds and animals, furnish shade and privacy, filter the air and enhance property values.

### **Trees are community assets deserving of protection**

In recent years, Montréal's trees have come to be viewed as a living heritage deserving of respect and attentive care. Trees have become dear to the hearts of citizens one and all, and it is not uncommon for Montréalers to rally in protest against the unjustified felling of island trees.

Born of the concerted efforts of the boroughs and various central municipal departments, the *Tree Policy* was drawn up to spur Montréalers to unite around a common passion. Under the Policy, trees—which constitute an important component of Montréal's green heritage—are portrayed as living beings and community assets deserving of protection and development.

## Providing tools for everyone

With the *Tree Policy*, the municipal administration seeks to substantiate its vision and lay the foundations for the development and enhancement of Montréal's green heritage. This Policy outlines a series of tools and actions which will enable everyone (municipal employees, citizens, institutional and association partners, major land owners, etc.) to contribute to the preservation of Montréal's trees.

- **For the citizenry (individuals, businesses, institutions and others)**

Better informed and apprised of regulations relating to the felling of trees, specimens to be protected owing to their location, new crops of trees, etc., the citizenry will be poised to contribute more actively to the preservation and development of Montréal's arboreal heritage.

- **For the City and boroughs**

The boroughs would be well advised to use these new tools to manage the urban forest in conjunction with Direction des sports, des parcs et des espaces verts. Using these tools, municipal authorities will be able to better plan and coordinate action taken with respect to trees in the public domain, thereby ensuring the long term development of the island's arboreal reserve.



## Vision behind the *Tree Policy*

**Grant trees their rightful place at the heart of Montréal's cityscape, making the city a greener, more pleasant, healthier place to live.**

The *Tree Policy* places trees at the heart of the Montréal cityscape, the aim being to provide the City with a viable and sustainable future while supporting the identity of the island landscape and enhancing citizen quality of life.

Important components of Montréal's green heritage, urban trees are not only living beings but also neighbours and allies. It is in the collective interest of everyone—elected officials, municipal employees, citizens, institutional partners, etc.—to respect, protect and support the growth and expansion of the urban tree cover.

In the capacity of trustee, the municipal administration is committed to taking all action as required to ensure the ongoing development and sustainability of the island's rich arboreal heritage with view to making Montréal a truly greener, more pleasant and healthier place to live.





# 1. Trees in the City Treasured companions



## What is meant by urban trees and arboreal heritage?

Urban trees are trees found in natural wooded areas, in planned clumps or stand-alone plantings.

Montréal's arboreal heritage includes as follows:

- Trees under municipal jurisdiction situated alongside City streets and in City parks and public squares.
- Trees located on private land owned by City residents, businesses, institutions and industries.

*Trees play an essential role in the City. They provide a natural, poetic backdrop to a chiefly concrete and stone environment. Moreover, they furnish us with the assurance that harmonious development is possible in an urban setting.*

## Trees are symbols of life...

Urban trees symbolize life in all its strength and vulnerability. The natural lifecycles of trees mark the passage of the seasons and represent the ever-changing nature of life as we know it.

Trees of life, family trees, national symbols, childhood remembrances... trees also form a part of our individual and collective imagination. They fit into a human landscape steeped in history and memories. Accordingly, they form an integral part of our architectural, landscape and cultural heritage.

Trees are also powerfully poetic symbols. We take pleasure in comparing ourselves with trees. We admire their ability to bend and sway in the wind, to sustain the wrath of storms and to withstand the ravages of time. And whenever a tree falls, we are provided with first-hand evidence that trees, like ourselves, however strong and tall, must sometimes yield to forces greater than they.



## Our trees speak volumes about us...

- The Canadian flag is adorned with a maple leaf, symbol of strength and unity.
- Montréal's coat of arms is bordered by a scroll of paper maple leaves which symbolizes the peaceful coexistence of the city's cultural communities.

## ...and living beings!

Trees are living beings, not merely pieces of urban furniture. This explains why it is so heart-breaking to see a tree felled.

Trees are born, live and die. Like other living beings, they can fall prey to disease, even mistreatment. They have life cycles and vital needs. They must adapt to their surroundings. In the city, they must cope head-on with human influence and activity.

To remain in good health, trees must be incorporated into a hospitable environment. But above all, they must receive the attention, care and respect they deserve. Such is the price Montréalers must be willing to pay to preserve and develop their arboreal heritage.





### **A few salient facts**

- One mature tree provides four individuals with their daily ration of oxygen (Tree Canada Foundation - TCF).
- One average-sized tree absorbs some 2.5 kg of carbon per year (TCF).
- During an average growing season, one sugar maple about 30 cm in diameter removes an impressive quantity of heavy metals from the soil: 60 mg of cadmium, 140 mg of chrome, 820 mg of nickel and 5200 mg of lead (Georgia University).
- One healthy tree can trap 7000 suspended particles per litre of air (TCF).
- One mature tree can draw over 450 litres of water from the soil which is then released into the atmosphere in the form of water vapour (FCA).
- The presence of 2 single trees in close proximity to a house or building can reduce air conditioning demand by up to 30% (Michigan State University, Urban Forestry).
- Trees, when located in residential areas, can increase property values by over 18% (US Forest Service).
- The City of Montréal, excluding the municipalities reconstituted in 2006, includes some 675 000 public trees (along streets and in City woodlots and parks – excluding the nature parks). These trees are valued at an aggregate total of some \$700 million.

### **Trees come replete with abundant benefits**

Urban trees provide abundant benefits for the human beings who share their living space with them. These benefits include as follows:

#### **Trees structure the landscape**

- Enhance buildings
- Enrich the architecture of monuments and sculptures
- Lend character to City arteries
- Facilitate citizen orientation

#### **Trees improve the quality of the environment**

- Clean the air by producing oxygen and absorbing carbon dioxide generated by vehicle traffic, heating and factory operations
- Release water vapour, thereby cooling the ambient air
- Control runoff and stabilize the soil
- Provide habitat for a diversity of wildlife
- Provide shade and absorb sound
- Act as sound barriers along busy thoroughfares
- Decrease reflected light by intercepting the rays of the sun and glare caused by streetlights and vehicle headlamps
- Impact air circulation (breeze vs wind)
- Trap dust particles

#### **Trees improve community life**

- Enhance the quality and identity of City districts
- Constitute intermediaries between people and tall buildings
- Form natural barriers between tracts of land used for different purposes
- Provide privacy
- Increase quality of life and sensation of tranquillity
- Contribute positively to social interaction and stress reduction – two factors which lead indirectly to a decline in criminality in underprivileged areas
- Attract new residents
- Provide a source of inspiration and creation

#### **Trees impart economic value**

- Lend value to properties
- Attract businesses seeking a quality working environment for employees
- Provide for savings from the dual standpoint of heating and air conditioning

#### **Trees play a role in City heritage**

- Owing to age or location, stand as a testimony to the City's cultural and historic heritage and identity
- Remind the citizenry of chapters in the City's history

## **Trees and people: A shared history**

Trees have accompanied humankind since time immemorial as they were present on Earth some 60 million years ago. Over the centuries, humans have entertained intimate relations with trees, using them for food, shelter and protection.

Trees have long been appreciated mainly for their usefulness. Cities in Europe planted only fruit trees which populated the gardens of the resident nobility and religious communities. In North America, trees were initially prized for their considerable market value. The founders of Montréal took particular delight in the mix of mainly deciduous trees which stretched from one end of the island to the other and out onto the surrounding floodplain. Indeed the stands of sugar maple, hickory and red oak adorning the slopes of Mount Royal—and other island locations—constitute attractions which have come to characterize the City of Montréal and environs.

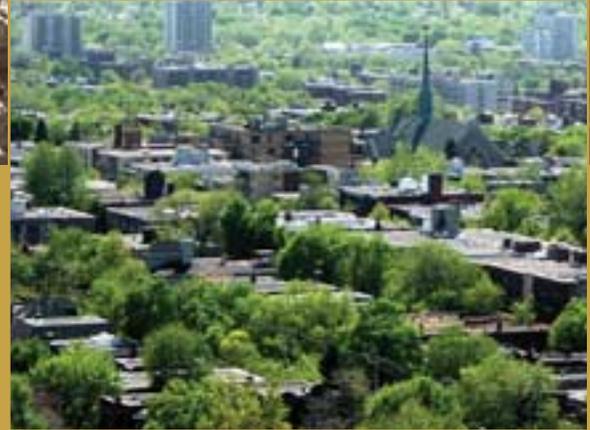
Back in the 19<sup>th</sup> century, Montréal's first city parks and urban trees came into being. The creation of Champ de Mars and the Governor's Garden led to larger initiatives the likes of Mount Royal and La Fontaine parks.

The 20<sup>th</sup> century heralded the inauguration of Montréal's Botanical Garden, brain-child of Brother Marie-Victorin who was instrumental in nourishing an island-wide passion for trees. In the years that followed, planting programs were instituted. An inventory conducted in 1960 within the limits of the former City of Montréal listed close to 120 000 trees. A subsequent inventory carried out between 1989 and 1991 recorded a total of 432 000 trees, 128 000 of which were classified as street trees.





## 2. Trees in the City An overview



### Montréal's most common street trees

- Silver maple
- Norwegian maple
- Honey locust
- Northern red ash
- Hackberry
- Siberian or Chinese elm
- Little leaf linden

*In Montréal, trees represent the dominant element of the landscape. One need only cast a glance out over the City to behold the striking vista. Street layout is overlaid with the foliage of the trees that line them. Every here and there, readily visible clumps of trees and woodlots provide telltale signs of City squares and parks.*

### **Trees are assets deserving of development...**

Montréalers view this backdrop of green as an asset. However, if it is to be protected and maintained, the City's arboreal heritage requires painstaking care and attention. Indeed, trees planted in an urban environment are often subjected to considerable stress which can put their health, if not their survival, at risk.

The situation is all the more worrisome given that the urban forest cannot regenerate on its own. Hence trees having survived for a hundred years or more in the City centre are not only of inestimable dollar value but also of indisputable heritage value!

### **... yet remain largely misunderstood**

At present, Montréal is lacking a comprehensive overview of the island's arboreal heritage and its current state of health. Urban forest knowledge, challenges, concerns and management techniques differ widely from one borough to the next.

However, there would appear to be a fairly accurate understanding of the pressures and stress which combine to imperil the wellbeing of City trees. It is important to realize that urban trees are located in an environment quite different from that originally intended. The trees which suffer the most as a result of these altered conditions are the street trees. The multiple threats and constraints they regularly face significantly hinder both growth and longevity.

### **Following are examples of the types of threats and constraints suffered by Montréal's urban trees:**

#### **• Decreased rate of planting**

Owing to budget constraints, the number of trees planted on the island has decreased considerably in recent years. Proper urban forest stewardship techniques are essential if Montréal is to protect its forest assets and enhance the life expectancy of the City's trees.





- **Major infestations**

A lacking diversity of species of trees can increase the risk of major infestations and epidemics. A case in point was the outbreak of Dutch elm disease in the mid-20<sup>th</sup> century which killed some 30 000 American elm trees on the Island of Montréal. With international exchanges on the rise, infestations and epidemics of a similar order are made that much easier and could severely decimate Montréal's urban forest if nothing is done to ensure a proper degree of diversity.

- **Injuries**

Trees are frequently injured through negligence during construction, development or maintenance work and ignorance of the fundamentals of environmental citizenship. Injuries thus sustained can shorten a tree's lifespan and, in some instances, prove fatal. Albeit compensatory measures do exist in a number of boroughs, they are rarely enforced for legal reasons.

- **Unjustified felling**

Citizens sometimes bring pressure to bear upon stewards and elected officials to have public trees removed. In the absence of a specific policy, trees are all too often felled for no good reason. To this must be added the felling of trees in the private domain without the necessary permits, often because individuals are unaware of applicable regulations and procedures.

- **Invasion of public infrastructure**

All too often, public infrastructure (electricity, natural gas, water mains, sewers, telephone lines, cables, street lighting, road signs, etc.) and other equipment designed to boost visibility (commercial signs and billboards, etc.) are installed without proper allowance having been made for trees and their vital needs. Once again, growth and life expectancy are seriously impacted.

- **Non-recognition of noteworthy trees**

Noteworthy trees are those which are privileged witnesses to our past. In both the public and private domains, some of these exceptional trees are threatened owing to non-recognition of their worth or the absence of appropriate protective measures.





### 3. Trees in the City Issues to be resolved, challenges to be addressed



#### **Efforts to raise citizen awareness already under way**

For a number of decades now, the City of Montréal has urged Montréalers to enhance their knowledge of the importance of urban trees. The Botanical Garden devotes 40 hectares to species of trees capable of flourishing in an urban environment. Since 1996, Maison de l'arbre publishes information about trees, their usefulness and how the forest ecosystem works. Each year, the City encourages the citizenry to water street trees abundantly at the base or sidewalk level.

Managing our arboreal heritage requires a detailed knowledge of the trees found within the City limits. How many are there? Where are they located? In what condition are they? What is the breakdown by age bracket?

At this point in time, neither the City of Montréal nor the boroughs are poised to answer these questions in full as the inventory of Montréal's urban forest remains incomplete. Municipal authorities indeed require a wealth of additional information relating to the makeup of this forest and the means to be taken to maintain and enhance it. The issues and challenges can be summarized as follows:

- The City of Montréal and the boroughs do not have all the tools required to provide for an enhanced understanding of the urban forest and related problems.
- Both the citizenry and municipal management must be better informed and made better aware of the challenges facing the island's trees.

The challenge therefore lies in outlining a vision and ensuring the efficient management of Montréal's urban forest.





## 4. Trees in the City

### Four main objectives to be achieved



#### **Prioritize biodiversity**

The advantages of planting a variety of species of trees include as follows:

- Add volume, structure, colour and texture to the landscape.
- Reduce risk of disaster In the event of an epidemic.
- Enhance viability of City trees.
- Decrease need for maintenance and replacement, thereby saving the City money.

To flourish and live longer, urban trees require care and attention over the longer term. The City of Montréal, in cooperation with the citizenry, is committed to ensuring that the island's trees and urban forest continue to occupy a place of choice in the Montréal landscape. Hence the following four main objectives drafted by the City and slated for achievement in the coming years:

- Develop and provide the tools necessary for defining a long term vision;
- Establish rules and practices relating to the protection, management and appropriate maintenance of the urban forest, while supporting applied research in the field.
- Increase the number of trees planted based on the principle of planting the right tree in the right location with a view to augmenting the island's arboreal reserve.
- Step up information, publication and awareness initiatives with a view to involving everyone – citizens, municipal employees, institutional and association partners, large land owners, etc. – in the effort to protect Montréal's arboreal heritage.





# 5. Trees in the City Planned municipal action



### **Municipal nursery guarantees quality production**

It is incumbent upon the City's municipal nursery to provide the boroughs with superior quality trees suited to urban growing conditions.

Long recognized for extensive horticultural expertise, the municipal nursery enhances City influence with institutions, private nurseries and other municipalities.

We are all collectively responsible for ensuring that our urban trees live long, healthy lives. If, however, we are to fully and effectively live up to this responsibility, the City of Montréal must be outfitted with a number of tools. First and foremost, the City must focus action on street trees as municipal stakeholders from across the island have labelled them as cause for concern.

This section outlines action planned by the City and the boroughs based on three main thrusts: public trees, private trees, and general action relating to both public and private trees.

### **5.1 PUBLIC TREES AND COMMUNITY RESPONSIBILITY**

Public trees are important components of the island's arboreal heritage. They line City streets and are situated in public parks and squares.

The boroughs are responsible for planting and maintaining public trees, especially street trees and trees located in municipal parks of all sizes.

It is incumbent upon Direction des sports, des parcs et des espaces verts to support the boroughs in carrying out their responsibilities. In addition to conducting studies into trees and sharing expertise with partners, this branch of the City administration has been commissioned to draft an overall vision for managing Montréal's public trees.

The City of Montréal must indeed act in the capacity of exemplary manager when involved in work or initiatives directly or indirectly relating to trees, regardless of whether such endeavours are actually spearheaded by the City or conducted together with City partners. Accordingly, the City commits to increasing the number of trees planted in conjunction with major development and public works projects spearheaded by municipal authorities.



### ***The Tree Plan: A basic tool for each City borough***

**Action 1:** Each Montréal borough shall draw up a Tree Plan in conjunction with Direction des sports, des parcs et des espaces verts.

**Timeframe:** Maximum 5 years.

The Tree Plan represents the main planning and management tool under the *Tree Policy* and must make allowance for all action relating to public trees.

Direction des sports, des parcs et des espaces verts will first put together a *Guide to drafting a tree plan* to support the boroughs in drawing up individual plans.

The boroughs will then draft a two-part Tree Plan. Given the gravity and extent of the tree-related problems that the boroughs are currently experiencing, Part I of the plan is to focus on street trees. Borough personnel can later address issues relating to trees located in public parks and squares, adjacent to bicycle paths, on undeveloped tracts of land, etc.

Upon completion, the boroughs are to submit their plans for public consultation with a view to raising public awareness of the importance of enhancing development of the urban forest and securing the support of citizens one and all.

Tree plans could also apply to specific sectors of Montréal, such as the natural and historic district of Mount Royal. An enhancement plan, incorporating and harmonizing legislative tools which lend the district its new status, could be drafted for this particular borough. Such a plan could also include thrusts set out in the new Master Plan, as well as sectoral policies recently published by the City or currently in the preparatory stage. These include the Heritage Policy, Policy on the Protection and Enhancement of the Natural Habitats, Transportation Plan, Strategic Plan on Sustainable Development, *Tree Policy*, etc.

### ***First step in process: Complete an inventory of public trees***

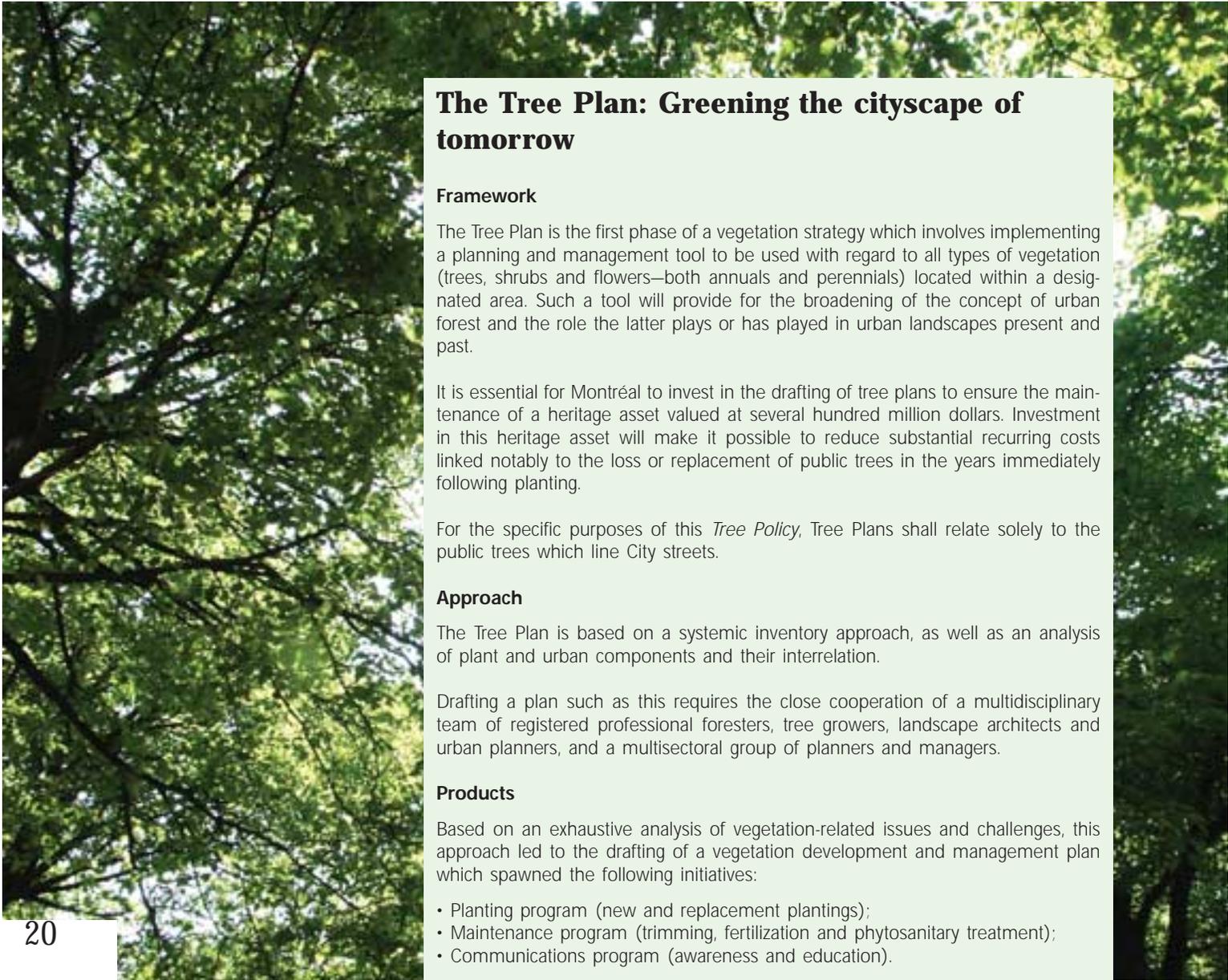
**Action 2:** Each Montréal borough, in conjunction with Direction des sports, des parcs et des espaces verts, shall complete a detailed inventory of public trees under borough jurisdiction, woodlots excluded.

**Timeframe:** Maximum 3 years

Completing this inventory constitutes the first step in drafting a Tree Plan. The inventory effort is to focus primarily on street trees given the gravity and extent of the problems that these trees currently experience.

This basic tool, to be updated regularly, will allow municipal authorities to better understand the makeup (species, location, age, size) and quality (condition, worth, replacement value, history of action taken, complaints lodged, etc.) of each borough's arboreal heritage. This information is essential for formulating action strategies such as plans to remove dead or dangerous trees, replace trees having been felled, as well as devising maintenance programs, planning maintenance resources, assessing species selected based on location and drawing up planting programs.

Direction des sports, des parcs et des espaces verts will establish a common computerized platform with a view to favouring the exchange of information compiled and obtaining an overall portrait of island trees. A document outlining key parameters to be considered when endeavouring to obtain such a portrait will be drawn up by Direction staff.



## The Tree Plan: Greening the cityscape of tomorrow

### Framework

The Tree Plan is the first phase of a vegetation strategy which involves implementing a planning and management tool to be used with regard to all types of vegetation (trees, shrubs and flowers—both annuals and perennials) located within a designated area. Such a tool will provide for the broadening of the concept of urban forest and the role the latter plays or has played in urban landscapes present and past.

It is essential for Montréal to invest in the drafting of tree plans to ensure the maintenance of a heritage asset valued at several hundred million dollars. Investment in this heritage asset will make it possible to reduce substantial recurring costs linked notably to the loss or replacement of public trees in the years immediately following planting.

For the specific purposes of this *Tree Policy*, Tree Plans shall relate solely to the public trees which line City streets.

### Approach

The Tree Plan is based on a systemic inventory approach, as well as an analysis of plant and urban components and their interrelation.

Drafting a plan such as this requires the close cooperation of a multidisciplinary team of registered professional foresters, tree growers, landscape architects and urban planners, and a multisectoral group of planners and managers.

### Products

Based on an exhaustive analysis of vegetation-related issues and challenges, this approach led to the drafting of a vegetation development and management plan which spawned the following initiatives:

- Planting program (new and replacement plantings);
- Maintenance program (trimming, fertilization and phytosanitary treatment);
- Communications program (awareness and education).

### Objectives

- Provide conditions conducive to the growth, health and longevity of island vegetation, especially trees.

*How? By favouring a diversity of species coupled with an appropriate distribution of the latter, the object being to reduce the risk of infestation and disease while preserving landscape balance.*

- Use the vegetation, especially street trees, as a privileged means of structuring and reinforcing the urban fabric and island landscape.

*How? By making proper allowance for the character and potential of the urban spaces to be protected, integrated or created.*

- Log action to date and provide guidance in terms of type of vegetation-related action.

*How? By consulting a reference document to be drawn up specifically for this purpose.*

### Users

- Planners: establish development parameters.
- Urban forest managers and stewards: plan and provide a framework for maintenance activities.
- Citizens: better understand and place into perspective municipal action regarding public trees.



**How does one ensure that trees remain good neighbours with aerial and underground infrastructure?**

- By establishing mechanisms for coordinating and supervising work to be carried out in the public domain and ensuring that field logistics make proper allowance for components of the natural and planned landscape when infrastructure network plans are being drawn up.

Accordingly, the City of Montréal will seek to reinforce the role and responsibility of local public utility companies such as Hydro-Québec, Gaz Métropolitain and others to favour a more rational use of sidewalks, vehicle traffic lanes and subterranean space. This action appears in the Montréal Master Plan.

- By privileging the underground housing of electrical wiring and cabling, the object being to free up space above ground and allow for the proper growth and development of City trees.

Accordingly, the City of Montréal plans to draft a bylaw rendering underground electrical and cable distribution mandatory in new urban developments. This action also appears in the Montréal Master Plan.

- By privileging, to the extent possible, the planting of street trees on grounds bordering City streets, as opposed to on sidewalks or berms.

The soil on such grounds is generally free of underground constraints and is considerably more conducive to root system growth and development.

**Establish criteria respecting new plantings**

**Action 3:** The City and the boroughs shall conduct new planting operations pursuant to various pre-established criteria with a view to ensuring the sustainability of the island's arboreal heritage.

It is important to act to ensure that conditions are conducive to the survival of newly planted trees as opposed to establishing quantitative objectives. Efforts by the City and the boroughs to plant quality trees in the proper places and to provide the latter with proper growing conditions will, in the medium and long terms, enhance the island's arboreal heritage while reinforcing the identity of the island landscape.

**• Enhance diversification of species of trees**

The City and the boroughs shall seek to enhance the diversity of species of trees when the time comes to engage in new planting operations. This objective is to be clearly set out in the Tree Plans of those boroughs where a lack of species diversity has been identified as a challenge to be addressed.

Plant biodiversity is the only effective, economical and lasting answer to issues of plant pathology. This applies to all species and all habitats. Plant biodiversity indeed fosters ecological stability by reducing insect populations and sources of disease with the power to trigger infestations and epidemics. In addition to ensuring the enhanced sustainability of the urban forest, plant biodiversity makes it possible to reduce maintenance, pesticide and plant replacement costs.

Species diversification further helps consolidate and mould the cityscape from the triple standpoint of form, colour and rhythm. For example, conifers—less allergenic by nature—appropriately planted to create visual screens the length of rail rights of way, freeways and parks enhance citizen quality of life and embellish public spaces year round.

**• Ensure harmonious cohabitation of plantings and infrastructure**

The City of Montréal and the boroughs shall seek to ensure that work carried out in the public domain more properly allows for the specifics of the surrounding urban environment.

This concern appears in the Montréal Master Plan which was adopted in November, 2004. To this end, various basic principles were passed to development in the public domain including "maximizing the planting of trees whenever possible while guaranteeing the conditions required and underground space necessary for healthy growth".

In other words, whenever street repairs are scheduled or a new street is being planned, the needs of existing or planned trees shall be considered to ensure the harmonious cohabitation of trees and the ever increasing load of aerial and underground infrastructure.

**• Enlarge pits for street trees**

The City and the boroughs shall adopt new planting practices designed to maximize the healthy growth of trees.

New tree planting pits shall ideally provide for a minimum of 5 m<sup>3</sup> of soil conducive to proper growth of the root system. Whenever this is not possible, an alternate technique providing for proper root system growth may be used (e.g.: mix of earth and stones).

### ***New rules designed to protect public trees***

**Action 4:** The City of Montréal and the boroughs shall seek above all to preserve and protect the island's arboreal heritage.

When faced with the issue of felling trees, the City and the boroughs shall favour alternate solutions such as the relocation of the trees, or effecting changes to a development project in conjunction with the developer. As felling may be unavoidable in certain instances, internal rules shall be drawn up to provide for the proper supervision of felling operations and planting of an equivalent number of trees.

- **Rules relating to the felling of trees and mechanisms for coordinating operations conducted in the public domain**

The City of Montréal and the boroughs advocate the drafting of rules relating to the felling of trees and mechanisms for coordinating action by central and borough departments. For example, felling a tree located on public land will require the filing of a request as is the case for trees situated on privately owned land. This request shall be documented and authorized by the borough horticultural officer and subject to the provisions of the borough Tree Plan which outlines action to be taken with respect to the arboreal heritage of the borough in question.

The felling of a public tree shall be carried out for justifiable reasons such as death, disease, decline, danger, unavoidable obstacle to development, species not suited to urban wooded areas (e.g. buckthorn, Norwegian maple), interference with the growth and development of neighbouring trees.

To minimize the felling of trees in the future, the City and boroughs shall be attentive to the choice of species planted. Whenever possible, priority shall be afforded indigenous trees with less allergenic pollen.

- **Standardized specifications**

The City and the boroughs, in their capacity of exemplary managers, are responsible for illicit acts and damage caused by City or borough personnel or subcontractors when work is undertaken in the public domain.

To remedy issues of the like, the City and the boroughs shall seek to incorporate into construction specifications clauses relating specifically to the protection of existing trees and engaging the responsibility of subcontractors. Accordingly, the City and the boroughs shall take action as required to ensure compliance with such clauses.

- **Rules and compensation procedures to apply in the event of damage to trees**

The City of Montréal and the boroughs shall establish financial compensation procedures for damage sustained by trees during snow clearance operations or as a result of negligence.

Financial compensation procedures shall be in keeping with the monetary value of trees either damaged or mortally injured, and shall be systematically applied whenever a substantiated claim is filed against an individual or company. The object of a measure such as this is to reduce the number of incidents involving damage to trees and plantings by placing the financial onus on the delinquent parties.



**Monitoring of new plantings to include:**

- Regular irrigation as required;
- Fertilization as required;
- Maintenance of sound, adequate structural integrity consistent with the species;
- Proper vertical and radial distribution of framework limbs;
- Canopy enhancement and removal of obstacles by means of regular trimming
- Monitoring of support stakes and straps;
- Weeding and maintenance of saucers;
- Removal of broken, diseased or obstructive branches.



**Book of specifications for new public spaces to include:**

- Concept underpinning site landscape design;
- Indications relating to the preservation of site characteristics;
- Spatial distribution of plant volume;
- Frequency of intervention required upon completion;
- Listing of substitute trees;
- Conditions respecting urgent renovations.

**Three types of maintenance for three sets of needs**

**Action 5:** The City of Montréal and the boroughs shall draw up maintenance programs for trees situated in the public domain with a view to maintaining Montréal's arboreal heritage in good health.

**• A maintenance program for newly planted street trees**

Each borough shall institute a maintenance, irrigation and follow-up program for young street trees, a program which will remain in force for a period of four years after planting. It is during this period that trees normally overcome the shock of having been transplanted. To avoid tree mortality, the regular monitoring of new trees is an absolute necessary.

**• A maintenance program for mature street trees**

The boroughs shall devise and institute maintenance programs to ensure the health and longevity of mature street trees.

To grow and remain healthy, mature street trees require as follows:

- Maintenance designed to secure structural integrity;
- Canopy enhancement and removal of obstacles by means of regular trimming;
- Removal of dead, diseased or obstructive branches;
- Appropriate irrigation in instances of water stress;
- Nourishing soil consistent with the specific needs of each species;
- Sufficient space to provide for the proper development of roots and branches;
- Adequate ongoing protection against human-inflicted injury, especially during snow clearance operations.

**• A maintenance program for new parks and public squares**

The City of Montréal and the boroughs shall devise and implement a tree maintenance program applying to the planning and development of new parks and public squares. A book of specifications shall be drawn up in this regard.

The design of a public park or square relates to a vision of what a planned concept will look like upon maturity. Given the dynamic development of such spaces over time, it is essential to understand both the vision and the underlying concept if the City is to be poised to intervene in a knowledgeable and effective manner.



## 5.2 PRIVATE TREES AND CITIZEN RESPONSIBILITY

Individuals, shop merchants, businesses, organizations and institutions must each act responsibly where trees are concerned. To aid citizens in preserving trees situated on privately owned land, the boroughs will be enacting new rules. The City and the boroughs will also be taking action to raise citizen awareness of the island's arboreal heritage.

### *New rules to better protect island trees*

#### • Felling of trees on privately owned land

**Action 6 :** The boroughs shall, if they have not already done so, adopt or amend urban planning rules relating to the felling of private trees.

**Timeframe:** By 2006.

The boroughs are responsible for regulating the felling of trees on privately owned land. However, in a November 2004 supplement to the Master Plan, the City of Montréal adopted rules and criteria relating to the felling of trees that all boroughs must take into account when drafting local regulations.

Under these new rules and criteria, any citizen, business or institution wishing to fell a tree located at the front of a built-up or vacant lot must obtain a permit or certificate of authorization from local borough authorities. Authorization will be granted only for those reasons set out for public trees, which is to say death, irreversible disease, damage to property located in the immediate vicinity, or planned construction either on or in close proximity to the lot in question.

Over and above obligations set out in the supplement to the Master Plan, and allowance having been made for issues specific to their respective territories, the boroughs would be well advised to tighten rules relating to the felling of trees on privately owned land and to ensure that for every authorized felling of a tree at least one new tree is planted. In an effort to curb the illicit felling of trees, the boroughs would also be advised to provide for dissuasive fines, to obligate land owners to replace trees wrongly felled or to require that they restore the site to its original state. In addition, it would be relevant and advisable for the boroughs to draft regulations governing tree trimming operations with a view to minimizing tree loss owing to overly zealous pruning.

The City and the boroughs will also wish to increase information and awareness activities relating to the development and conservation of the public and private trees which make up the island's arboreal heritage. Better informed with respect to felling regulations and tree trimming techniques, property owners will be better poised to comply with the regulatory framework, thereby enhancing their contribution to the protection and maintenance of this source of collective wealth.



- **Trees to be protected during construction work**

**Action 7 :** The boroughs shall, if they have not already done so, institute measures as necessary to protect trees and roots during construction work or require the planting of new trees when new buildings are erected.

**Timeframe:** By 2006.

The supplement to the Master Plan contains provisions relating to the protection of trees and roots during construction work. Accordingly, the boroughs would be well advised to render owners more accountable by imposing fines or requiring them to replace trees wrongly felled or restore the land to its original state.

Requests for a building permit must also specify the presence of trees located on the site or in the immediate vicinity. Whenever trees—especially noteworthy specimens—are present on the site, specific measures will be required to preserve and protect them. The borough will even be empowered to request that construction plans be modified to make proper allowance for onsite trees. Additionally, developers will be required to secure a contract bond.

Pursuant to the provisions of the supplement to the Master Plan, borough urban planning regulations must incorporate requirements relating to the planting of trees during construction or expansion operations. Whenever possible, priority will be afforded indigenous trees with less allergenic pollen.

- **Stands of rare, mature or century-old trees or trees of local interest located in new developments are to be protected (including forest stands of interest)**

**Action 8 :** The boroughs shall incorporate into their urban planning regulations the provisions set out in the supplement to the Master Plan. These provisions stipulate that a construction or expansion project in a wooded area not part of an ecoterritory (Map 2.6.3 of the Master Plan) must maximize the conservation of trees of aesthetic and ecological interest.

**Timeframe:** By 2006.

The City of Montréal seeks to protect stands of rare, mature, century-old trees, as well as trees of special local interest which by reason of their size, isolated location or individual characteristics have not been included in the designated sectors set out in the Policy on the Protection and Enhancement of Natural Habitats.





### Main tasks of future Multidisciplinary Committee on Noteworthy Trees

- Conduct an inventory, for each borough, of noteworthy trees located in the public and private domains, including fact sheets and photographs;
- Establish noteworthy trees as elements of the island's natural heritage;
- Define identification criteria:
  - Age
  - Dimensions and shape – trees of exceptional size given the species
  - Rarity – trees not common to the island environs
  - Beauty – exceptionally beautiful trees (shape, location, bearing, etc.)
  - History – trees forming a part of the island's historical and cultural heritage;
- Raise citizen awareness of these exceptional specimens;
- Determine criteria for replacing such trees given new environmental conditions (in instances of dead trees);
- Determine common tree identification criteria for the entire island;
- Establish protected areas for noteworthy trees, including as follows:
  - Security perimeter for construction, renovation and landscaping work
  - Protected area around such trees to avoid trampling and compacting the soil
  - Provide for the unobstructed viewing of such trees.

## 5.3 PUBLIC AND PRIVATE TREES: GENERAL ACTION

*Set up a program to recognize, protect and enhance citizen awareness of noteworthy public and private trees*

**Action 9:** The City of Montréal shall draw up a municipal program designed to recognize and protect the island's noteworthy trees, and outline conservation measures based on the relative importance of the individual trees.

Noteworthy trees constitute an often overlooked and neglected asset. The Heritage Policy of the City of Montréal recognizes these trees as integral parts of the landscape heritage and views their preservation as a means of keeping the island's collective memory alive. These trees are deserving of the same degree of protection as historical and heritage monuments.

The City of Montréal therefore advocates setting up a multidisciplinary committee of experts commissioned to establish a mechanism for recognizing and classifying these trees, the object being to showcase these noteworthy specimens.

Montréal further intends to underscore, by means of special mentions, efforts devoted by citizens to protect and develop the City's arboreal heritage. Accordingly, an annual contest will be organized to recognize noteworthy autumn trees.

*Research efforts to be enhanced to provide for a better understanding of trees in the city*

**Action 10:** The City of Montréal shall pursue development of its program of applied research into aspects of urban forest management deemed essential to the safeguarding and enhancement of Montréal's arboreal heritage.

Investment in research is critical to the preservation of the City's arboreal heritage which is currently valued at close to \$700 million. Through targeted investment in research, the City and the boroughs will be able to substantially reduce recurring tree replacement costs as a result of trees lost in the first few years after planting. Each new tree costs Montréal over \$1000 in acquisition, planting and maintenance charges during the first four years.

Recognizing the importance of urban forest heritage, the European Union invested \$10 million between 1997 and 2002 in scientific and technical research into urban forests and trees.

To ensure the long term protection and development of trees, and in keeping with the principles of sustainable development, the City of Montréal is intent upon pursuing and augmenting innovative research activities. The City indeed aims to become a nationally and internationally recognized hub for this particular type of research. Accordingly, Montréal will continue to draw up research protocols designed to simplify processes and render urban tree management more efficient.





### **An example of applied research into urban trees: structural soils**

Since 1999, the City of Montréal has worked together with Université de Sherbrooke and McGill University to develop new, high-performance soil mixes.

These mixes make it possible for roots to grow beyond the confines of the planting pit, thereby enhancing a tree's growth and survival rate.



Introduction, in 2001, of structural soils for trees planted along De Maisonneuve Boulevard.



### **Accordingly, the City intends as follows:**

- To pursue applied research into identifying areas found to restrict the growth of urban trees, the root development of sidewalk trees, and the modelling of tree growth, etc.;
- To foster exchanges with other municipalities—at home in Québec as well as outside the province—in the form of training sessions and study missions, the aim being to assess techniques used and ascertain the potential for technology transfer;
- To partner with university research centres and institutes in Québec, Canada, the USA and the EU;
- To broaden the City's international influence by publishing research results;
- To broaden the City's influence at the national level by ensuring involvement in decision-making groups and networks at the Canadian level;
- To share knowledge with municipal decision-makers, City personnel and the citizenry with a view to spurring interest in and consideration of Montréal's urban trees and, if need be, conveying new technologies to the boroughs;
- To foster cooperation and synergy among central municipal and borough departments.

### **A well informed and enlightened community**

**Action 11:** The City of Montréal shall increase information and awareness activities with a view to securing the commitment of everyone—citizens, developers, central municipal and borough personnel, as well as private, institutional and association partners—to the cause of the development and protection of the island's arboreal heritage

The City recognizes citizens as front-line stakeholders in the development and conservation of public and private urban trees. Montréal therefore intends to enhance the visibility of exemplary action undertaken by citizens or groups of citizens, and use citizen knowledge and vigilance to protect the island's trees.

The City will advise citizens of their responsibilities respecting trees and the specifics of the *Tree Policy* through the use of communications tools such as leaflets, brochures and the City's website.

Accordingly, the City invites the media to pursue and step up action to promote and disseminate arboricultural knowledge, and urges them to fuel collective thinking on the topic of Montréal's arboreal heritage.

Furthermore, the City of Montréal seeks to develop the urban forest in cooperation with various institutional and association partners, including as follows:

- Montréal's school network (awareness initiatives to be aimed specifically at children);
- Associations poised to lead dissemination activities by fostering the emergence of organizations dedicated to the conservation and enhancement of trees located in City districts where trees are few are far between, and by sustaining conservation and educational initiatives.





The City boasts an abundance of partners, businesses and institutions which, each in their own way, can contribute to the development of a collective vision pertaining to the conservation and enhancement of island trees. The City accordingly intends as follows:

- To reinforce the roles and responsibilities of institutional citizens and public utilities, Hydro-Québec and Gaz Métropolitain in particular, and to revisit how they do what they do with a view to protecting Montréal's arboreal heritage (establish new rules relating to tree trimming; revise tree trimming frequency and techniques);
- To encourage action in the construction industry aimed at protecting trees;
- To invite large land owner partners to plan development in cooperation with the City.

Within the municipal ranks, increased efforts to enhance awareness would appear necessary. In this light, the City seeks as follows:

- To train the municipal personnel responsible for advising and informing the public;
- To raise the awareness of municipal decision-makers respecting the importance and role of trees;
- To develop proficiency training programs for all personnel involved in arboricultural activities and land-use planning.

Lastly, the sharing of knowledge and information among central municipal and borough departments would appear to represent a challenge. In this regard, the City endeavours as follows:

- To facilitate access to all plans, policies, programs, regulations and studies for all central municipal departments, and to coordinate the efforts of the latter to ensure coherence and complementarity;
- To increase opportunities to exchange knowledge and work together.





## Conclusion Collectively honouring our trees

The *Tree Policy of Montréal* was produced with the invaluable support of the boroughs and various central municipal departments. It is essential that cooperation of this nature continue in the coming years as numerous aspects of the policy at hand require concerted efforts and a shared vision if they are to be properly implemented.

It would appear equally important to consolidate and validate municipal expertise in the matter of urban forestry. The City will therefore seek to maintain, within department ranks, a critical mass of expertise poised to plan and coordinate research activities, as well as consult with and support the boroughs. The City will endeavour to ensure that the bonds of complementarity are maintained and reinforced among experts working in central municipal and borough departments. The City will similarly continue to develop and promote municipal expertise.

Just as importantly, the municipal administration is counting upon Montréalers one and all to take the health and life of urban trees to heart, and to view trees as lifetime companions.

Montréal's trees deserve not only to be protected and preserved, but also to be better studied and better managed. This Montréalers can look forward to achieving in a spirit of shared solidarity as trees are invested with an uncanny ability to bring people together!



## ACKNOWLEDGEMENTS

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