

# EXTENSION NOTES



## NATURALIZING YOUR LOCAL PARK OR BACKYARD

Naturalizing your local park or backyard can provide a multitude of benefits to you, your community and the environment. Natural landscapes eliminate the need for chemical weed and insect control that might damage your health and the environment. And, over the years, they require less work than lawns, giving you more time to enjoy nature in your own backyard.

This Extension Note provides information on some of the many benefits of backyard naturalization, as well as factors to consider when planning a naturalization project for your property.

### WHAT IS NATURALIZATION?

Naturalization is the process of transforming a cultivated landscape, such as a lawn, into a more natural landscape. Natural landscapes feature native plants arranged to mimic naturally occurring habitat, such as forest, wetlands or meadow. A native plant is one which was common to the area (or “bioregion”) before European settlement. For example, white ash is a native plant in most areas of southern Ontario, whereas Scot’s pine is not. Bluegrass, a common type of grass used for lawns, is not a species native to Canada.

### NOT JUST ABANDONMENT

Naturalization requires research, planning and hard work. It should not be confused with “abandonment,” which is only one way to naturalize an area. Abandonment involves the conscious decision not to undertake vegetation management activities such as site preparation, planting, tending and maintenance. Instead, it means “walking away” from the site leaving it to its own forces. Sometimes these forces quickly lead to the establishment of “noxious weeds,” such as ragweed. Trees and shrubs may exhibit reduced growth rates due to competition from these noxious weeds. In some sites, *invasive* species may dominate. An *invasive* plant moves into a



Purple coneflower (*Echinacea purpurea*), seen here with a monarch butterfly, is a perennial native to North America. It flowers from June until September.

habitat and reproduces so aggressively that it displaces some of the original native plants. Abandonment depends on seed coming from nearby plants which may or not be desirable. Finally, abandonment uses the soils present on the site. In a

backyard or local park situation, these soils often lack organic matter, are compacted and have little in the way of a native seed reserve.

## BENEFITS OF NATURALIZATION

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Naturalization has numerous benefits:

### ATTRACTING WILDLIFE

By naturalizing your local park or backyard, you can provide habitat for many plant and wildlife species. The kinds of wildlife will depend on the location, size and type of habitat created. If you live close to a ravine, woodlot, field or park, you can attract a wide range of species. On the other hand, if your property is an isolated island of greenspace within an urban environment, you will draw fewer species. You can tailor your design to attract specific species of wildlife by creating different habitats (food and cover). For example, forest habitat of tall trees such as oaks provide an upper storey canopy for orioles and acorns for squirrels. Ground cover or low shrub plantings can provide habitat for song sparrows. Wildflower meadows provide habitat for butterflies.

You may experience conflict with some wildlife as a result of your naturalization project. You can try to tailor your efforts to selectively attract species of wildlife that you like. However, you should be prepared to be tolerant of most urban wildlife including birds, mammals, reptiles and amphibians before undertaking a naturalization project.

### ELIMINATING CHEMICAL LAWN TREATMENTS

Chemical fertilizers, insecticides and herbicides can give you a tidy lawn, but they may also kill insects, invertebrates, bacteria, fungi and other forms of life. Ninety-nine per cent of yard insects are beneficial. They pollinate flowers, help leaves and other material decay, aerate the soil, release nutrients and sustain the natural cycle of life. Not only do these chemicals kill insects, they may also do lasting damage to human health and the environment. Going natural in your backyard allows you to rely on

alternatives to chemical treatments. Instead of fertilizing your lawn, you can enrich your natural area with compost. With a balanced, natural ecosystem in your backyard, you won't need insecticides. And, if you plan your natural area well, you can do required weeding by hand, instead of using herbicides.

### REDUCING LAWN MAINTENANCE

Reducing your reliance on chemical treatments means less work for you. If you retain a small patch of lawn for lounging or playing sports, eliminating fertilizers means you won't have to mow as often. And, as an added bonus, you might have fewer skunks. That's because less mowing means less thatch, and less thatch means fewer grubs — a favorite food of skunks.

### NURTURING NATIVE SPECIES

Naturalizing assists native plant species to compete with non-native plants (introduced species). Non-native, invasive plants can displace native plants resulting in reduced habitat for wildlife that depend on these native species for food and shelter.

#### NATIVE VERSUS NON-NATIVE SPECIES

##### NATIVE

nannyberry  
red pine  
hawthorn  
asters  
sugar maple  
partidgeberry

##### NON-NATIVE

russian olive  
Scot's pine  
common buckthorn  
ox-eye daisy  
Norway maple  
periwinkle

## ESTABLISH YOUR GOALS

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Consider the possible benefits of naturalization and how much effort you want to devote to the process in the short and the long-term. Then identify your goals. Before you begin, do some research. Determine the plants you are allowed to plant in your area. Assess the size, character and growing conditions of your property. Talk to your local naturalist club, gardening club, municipality or local expert.

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## PROPERTY STANDARDS

Increasingly, people recognize the importance of using native plants in residential and commercial landscaping. But some communities still have property standards and bylaws that prohibit some plants or restrict maintenance techniques, such as burning or reduce mowing. To avoid conflicts, check with your municipality. It's a good idea to tell your neighbors

about your plans and the benefits of naturalization. Also, before you dig, ensure that you won't be disturbing municipal right-of-ways, hydro or gas lines, or the flow of water in ravines or drainage easements. Call for individual utility locations.

## ASSESS YOUR PROPERTY

Native plants have evolved to grow in specific soil, light and moisture conditions. It's crucial to the success of your project that you carefully assess these factors and other aspects of your property in order to choose the right plant for each location.

To give your plants the best chance of survival, choose native plants that are adapted to local growing conditions instead of plants that come from different parts of the province or country.

### HARDINESS ZONES

The minimum winter temperature is a key factor in determining the species that can survive in your yard. The map of Plant Hardiness Zones of Canada (next page) can be used to identify which plants can grow in your area. These zones are a guide to hardiness, not an absolute rule. For example, wind can have a tremendous influence on where plants can grow. A plant tolerant to zone 3 may not do well in a windy location in zone 3. However, a plant tolerant to zone 4 (warmer) may tolerate a sheltered location in zone 3 (colder) and grow quite well.

### SOIL TEXTURE

The soil texture in your yard will influence plant growth and determine the type of plants you can grow. Loam is the best soil texture for many plants. It's composed of clay (20 per cent), silt (40 per cent) and sand (40 per cent).

SOILS TEXTURE		
CAST	RESPONSE TO HANDLING	SOIL TEXTURE
strong	easily handled without breaking	loam
good	allows some handling	clay or clay-loam
weak	allows careful handling	silt or silt-loam
very weak	breaks when handled	sand or sand-loam

One of the easiest ways to test for soil texture is to form a soil cast. Squeeze a lump of soil in your palm by making a fist. The strength of this cast when handled determines the soil texture. Use the chart below to determine the soil texture.

### SEASONAL VARIATIONS

Remember that plants change their look from season to season. In winter, the bark and twigs are more visible and assume aesthetic importance for their colour and texture. In spring, the bark, twigs and newly flushing buds and leaves are important to vigour. In summer, leaves and crown shape are most readily seen. In the fall, leaf color becomes the focal point of your landscaping. Anticipate what your vegetation will look like in each season.

### LIGHT

Assess the amount of light that different parts of your yard receive during the day. Which areas receive full sun (eight hours a day or more), partial sun (six hours), partial shade (three hours) or full shade (no direct sun)? Also determine whether the light is direct or filtered and how sunny and shady areas change during the growing season.

### WATER AND DRAINAGE

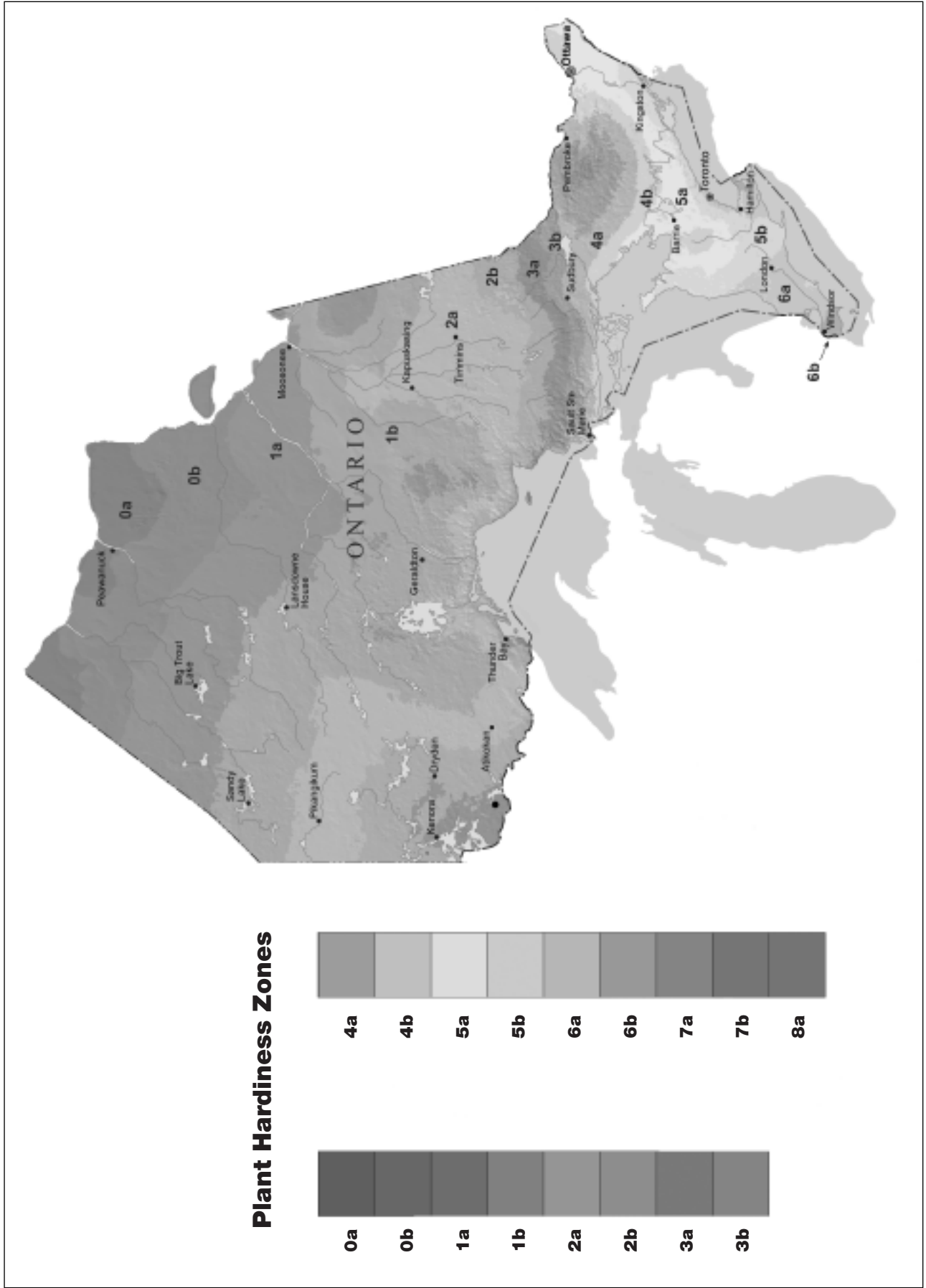
Drainage describes how quickly water drains away from an area. It's determined by soil texture, slope and water table depth. Soils with large quantities of sand usually drain quickly, while soils with large quantities of clay drain slowly.

To determine the drainage in an area, dig a hole 30 centimetres wide and deep. Fill it with water and let it drain. Then fill it again with water. The length of time it takes to drain is a measure of drainage. Soils with good drainage take less than two hours. Poorly drained soils take more than two hours.

### LAY OF THE LAND

The dips and rises in your yard affect drainage and soil temperature. A north facing slope, for example, is usually wetter and cooler than a south facing slope. This feature of the land is called aspect, and it's an important consideration when choosing plant species.

# PLANT HARDINESS ZONES OF ONTARIO



## WIND

Assess which parts of your property are exposed to or sheltered from the wind. Consider wind tolerance as you select plant species for each area. Most plants that require shade also need shelter and do not grow well in windy areas.

## POLLUTION

No matter where you live, air pollution and salt contamination can present challenges. The symptoms of salt injury are similar to drought: watch for reddish brown leaves or premature changes to autumn leaf colors and branch disfiguration.

Use salt only when absolutely necessary. Sand is a good alternative to salt. Where plants will be exposed to salt (along road sides), plant species that are tolerant to salt.

## SIZE AND USES

Consider the size of your yard and how you intend to use it. Physical barriers, such as driveways, are difficult to move but pathways can be easily changed. Know the ultimate size of the trees, shrubs and herbs you plant. Make sure you allow for growth within the size of your lot.

## CURRENT VEGETATION

Create an inventory of the existing plants on your property. You'll need to identify what you want to keep, what you want to move and what you want to replace.

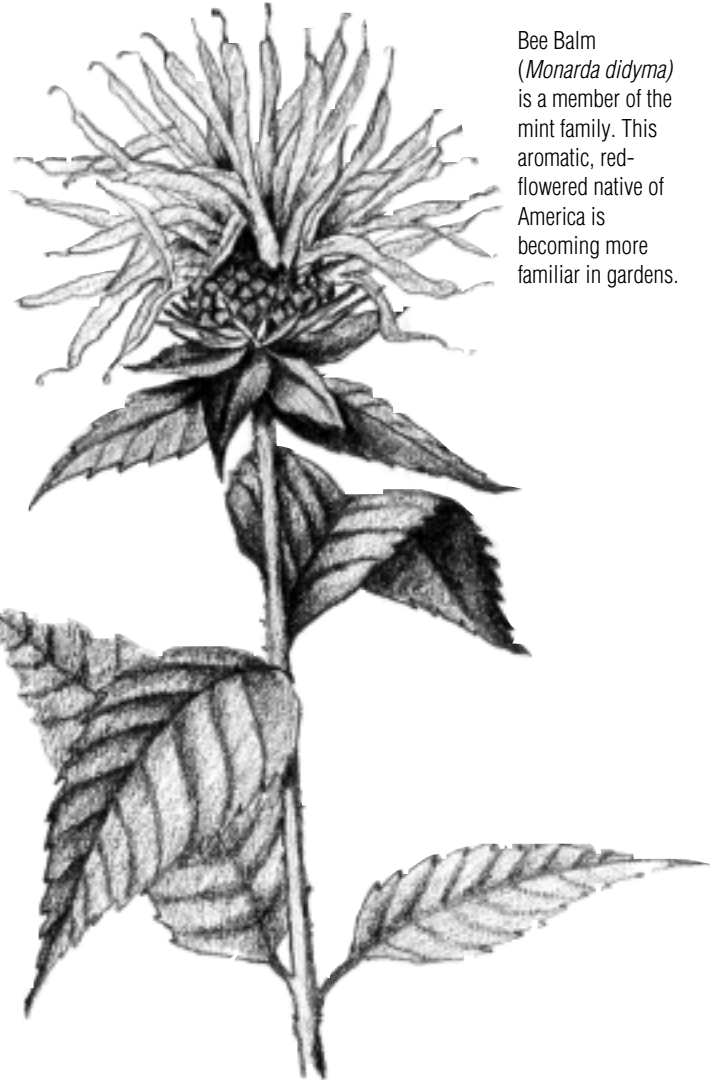
## PLANNING YOUR PROJECT

After you have assessed your goals and your property, it's time to plan your naturalization project. Using an inventory and a map which shows your property boundaries and dimensions of your house, draw a picture of your present yard. It should show existing vegetation, utilities, buildings, driveways, walkways, etc. Then, on a copy of the same inventory, draw a picture of your naturalized yard (see example on next page). Computer software is available to help you with these tasks.

Complete the plan first, then decide on a work program based on your time and your budget. Start small and allow the project to evolve.

Unless you intend to hire expert help, it's a good idea to divide your project into phases. Tackling a bit at a time allows you to keep most of your yard intact and to learn from early successes and failures. Next, choose the native plants you intend to plant and determine when and how they should be planted.

The final planning stage is when you actually get your hands dirty. Before you disturb any part of your property, layout your design on the ground using garden hoses, ropes, props and stakes to outline and mimic the sections or beds. This will

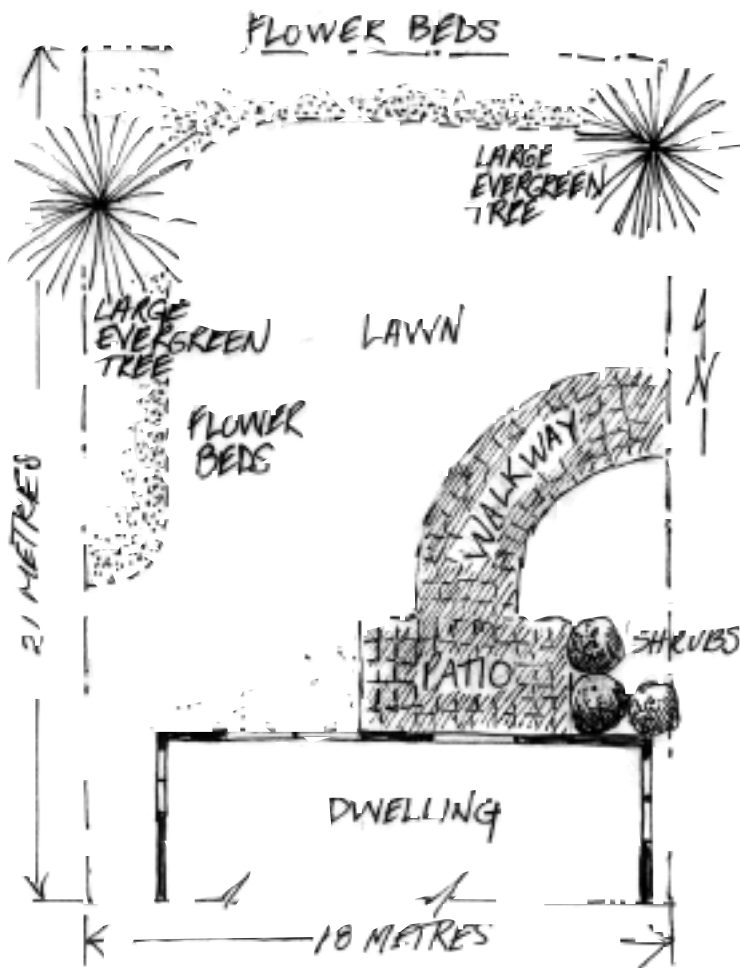


Bee Balm (*Monarda didyma*) is a member of the mint family. This aromatic, red-flowered native of America is becoming more familiar in gardens.

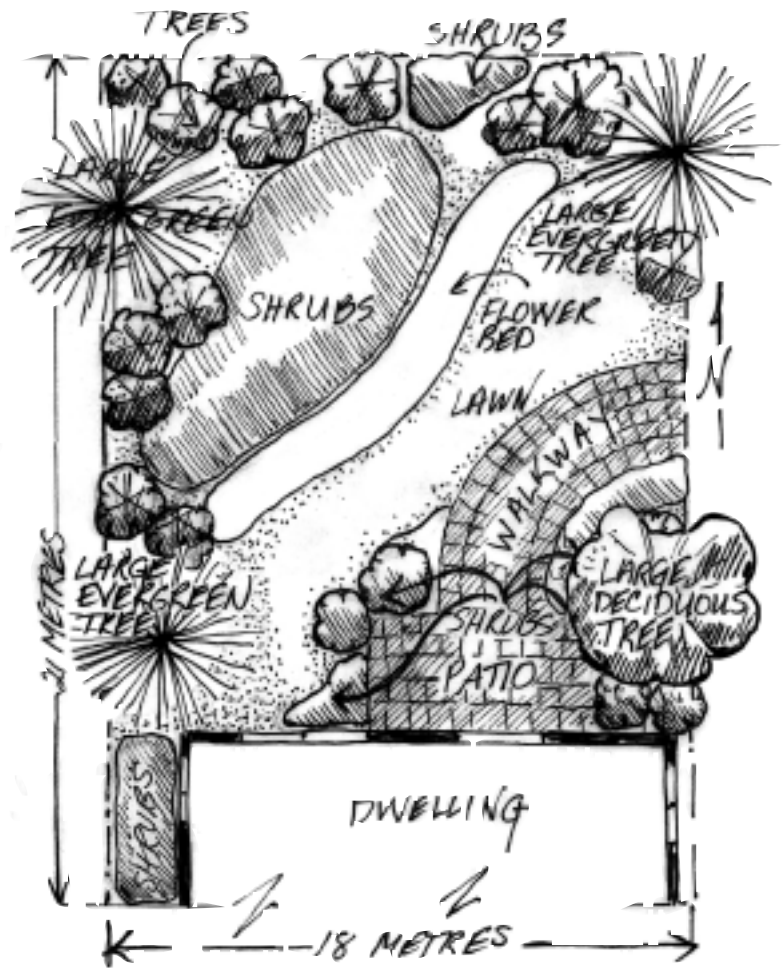
help you visualize the layout and see how each plant complements its neighbor.

Here are some points to remember as you work through the planning stages:

1. Choose native plants that will thrive in the specific climatic, soil, light and moisture conditions in the selected part of your property.
2. Choose native plants that have been grown from local seeds. The farther away you go for a tree, the less chance it has of thriving in your area and the more work you will have to do to prepare the site and care for the tree. For example, if you live in Ottawa and purchase a black walnut tree in Niagara Falls, the tree will not come from stock that has adapted to Ottawa's climate.
3. Visualize how your naturalized property will change over the years and leave room for your plants to grow.
4. Know the habits of the plants — final height, spread, blooming period. Basic gardening skills still apply.



Before naturalization project



After naturalization project.

5. Use your garden hose in the summer to delineate your new planting beds. In the winter, (after Christmas) "borrow" your neighbors discarded Christmas trees and insert them into the snow around your yard to help visualize what it will look like. For deciduous trees you can use large branches from adjacent trees.
6. Keep in mind the kinds of activities you want to do in your yard during the different seasons and in the coming years.
7. Anticipate and plan for future maintenance. As some plants mature, they may need to be moved or divided to maintain balance and form. Trees and shrubs may need to be pruned to maintain the correct level of shade or filtered sunlight for the plants below.
8. Consider potential energy savings in your design. Deciduous trees planted on the east and west sides of a building will keep it cooler in the summer while allowing the sun's rays through for heat in the winter. Plant evergreens on the northwest side of your yard to cut the force of cold winter winds. These design features will also shelter wildlife and plants in your yard from extreme hot, cold and windy weather.
9. For a natural look, plant clumps of plants and include as many layers of vegetation as possible to mimic naturally occurring communities.

## PREPARING THE SITE

Apply the three Rs — reduce, reuse and recycle — as you prepare and tend your beds. If you don't already have one, get a backyard composter and convert your organic wastes into natural fertilizers to enrich your soil.

You can physically remove sod using a shovel or you can use newspapers, old carpets, tarps or organic mulches, such as straw. Lay the material over an area and wait about a year for the grass underneath to die and decompose. If you use an organic mulch for this purpose, you must ensure that it is deep enough to discourage weeds (10 centimetres) or use in conjunction with a weed barrier textile or black plastic.

## PLANTING

There are five important factors to consider when planting:

### TIME OF DAY

Plant in the early morning or late evening on a cloudy day with no wind. Ideally, plan to plant before a rainy day.

### SEASON

Container or balled and burlapped plants can be planted almost any time of the year, as long as the plant does not experience stress, such as drought. Bare-root plants should be planted in the spring or the fall when dormant.

### PLANT STOCK

The type of project you do determines the type of stock you plant. Smaller trees and shrubs become established more quickly than larger ones. They are also less expensive and easier to move and plant. However, small seedlings will have a more difficult time surviving stressful environments. For example, in city parks where human traffic and vehicle pollution are major concerns, larger, more expensive, balled and burlapped stock should be used.

### PLANTS ARE SOLD IN A VARIETY OF WAYS

- |                             |  |
|-----------------------------|--|
| <b>Bare Root</b>            | <ul style="list-style-type: none"> <li>• Whole plant is "lifted" (dug out of the ground) in the spring</li> <li>• No pot or container is used and roots are not in soil</li> <li>• Plant is held in cold storage for no longer than two weeks before planting</li> </ul> |
| <b>Container</b>            | <ul style="list-style-type: none"> <li>• Plant has been grown or transplanted into peat or paper-product pots of various sizes</li> </ul>  |
| <b>Balled and Burlapped</b> | <ul style="list-style-type: none"> <li>• larger tree that has been dug out of the ground and placed in burlap or a wire basket</li> </ul>  |



Plant as many layers of vegetation as possible: trees form the overstorey, shrubs and shade-tolerant trees form the understorey, herbaceous plants and mosses form the floor.

The quality of the plants at the time of purchase is important as well. Is the reputation of the nursery good? Does the manager know the seed source of the plant material (it should be from your local seed source to ensure survival)? Do the leaves look healthy? Are the buds dry or "plump"? Are there visible roots showing (not a good sign, unless it is bare root stock)?

### PROTECTION AND CARE

Keep root balls, exposed roots or container stock moist and protect them from exposure to the sun or the wind.

### PLANTING TECHNIQUE

If you choose your plants well, you don't need to use fertilizer or manure when planting. Roots should be spread in a natural form and planted at the same depth as they grew in. Roots should never be planted too deep as the weight of the soil placed on top and the increased moisture can kill the plant.

## MAINTENANCE

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It is important to protect your newly established plants from drought, wind, competitive or unwanted vegetation, rodents, and animals.

### DROUGHT

Water only when your plants need it, normally in the late afternoon or evening during the first year of the planting. They need extra moisture to survive the stresses associated with moving and planting. However, after they become established, plants that are well suited to a site can survive short periods of drought. Deep watering rather than frequent watering is the key.

### WIND

Use stakes to stop the root ball from rocking and to prevent tall plants from being blown down. Remove the stakes after the plants are established, usually after the first year. Plants with large root balls usually don't need staking.

## FINAL COMMENTS

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Have fun in seeing your backyard or park evolve. Good luck, happy planning and keep on naturalizing!

## REFERENCES

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The following Extension Notes will further assist you:

- *Tree Guards Help Protect Your Trees*
- *Mulches Help Trees Beat Weed Competition*
- *Careful Handling and Planting of Nursery Stock*

Further reading:

- Ontario Ministry of Natural Resources. 1993. *Landscaping for Wildlife*. Queen's Printer for Ontario. pp.18.
- Aboud, Steven. W. and Kock, Henry. 1994. *A Life Zone Approach To School Yard Naturalization — The Carolinian Life Zone*. University of Guelph. Guelph, Ontario. pp. 86.

### WEEDS

A *weed* is any plant that grows aggressively where it is not wanted. Weeds can take over new plantings by competing for sunlight, water and nutrients. Use mulches, such as pine bark, to keep unwanted plants from becoming established. Be cautious of newly-ground wood chips or fresh grass clippings, they deplete the soil of nitrogen during decomposition. Also, plastic and newspaper mulches make effective barriers. Where mulches can't be used, weed by hand.

### ANIMALS

Use tree guards to protect trees from voles, rabbits, deer, and other herbivores that chew on the bark, twigs, and leaves.

- Daigle, Jean-Marc and Donna Havinga. 1996. *Restoring Nature's Place*. Ecological Outlook Consulting and Ontario Parks Association. pp. 226.
- Johnson, Lorraine. 1995. *The Ontario Naturalized Garden — The Complete Guide To Using Native Plants*. Whitecap Books Ltd., North Vancouver, B.C. pp. 188.
- Newcomb, L. 1977. *Newcomb's Wildflower Guide*. Little, Brown and Company, Toronto. pp. 490.

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