

## Gardening and Landscaping

# Worksheet #7a - Natural Buffers and Shoreline Access

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Use this worksheet to learn about living with natural buffer areas.

### *Why should you be concerned?*

- A buffer is an area of natural vegetation that runs along the shoreline or stream. It extends from the high water mark to the water's edge.
- Natural buffers can include wetlands, beaches, forest corridors, and any native vegetation along the shoreline or bank.
- A naturally vegetated shoreline supports a wide variety of plants and animal life. Ninety percent of all lake life is born, raised and fed in the area where land and water meet.
- Natural buffers not only protect the stability of the shoreline but they protect water quality by filtering and purifying water before it enters a watercourse.
- In order to visually or physically access water, people sometimes remove all or part of a buffer. This activity weakens the buffer's ability to protect against erosion or poor water quality. This leads to the degradation of ecological function. It can also lead to disputes with neighbours and criminal charges if fish habitat is harmed.

### *What you can do.*

1. **Maintain your shoreline in its natural pre-developed state. In some cases, your natural shoreline may be bedrock.**
2. Restore vegetative buffers where they have previously been removed or degraded. Look at nearby undisturbed sites to determine which plant species are found at the shore.
3. Minimize the number of water access points. Do not locate access ways through environmentally sensitive



# Natural Buffers and Shoreline Access: How do you rate?

Topic	Best <b>4</b>	Good <b>3</b>	Fair <b>2</b>	Poor <b>1</b>	Your Rating
<b>1 Disturbance to the buffer</b>	Buffer is not traversed to provide access to water.	There is only a small designated path through the buffer.	Buffer is traversed but vegetation is allowed to re-establish naturally, <b>OR</b> breaks are concentrated in one area.	Buffer mostly broken or non-existent. Vegetation cleared and prevented from re-establishing.	<input type="checkbox"/>
<b>2 Size of buffer</b>	Buffer is greater than 50m wide and in environmentally sensitive areas (ESA's), buffer is 150m wide.	Buffer is at least 50m wide.	Buffer is less than 50m wide.	There is no buffer present. Grass/lawn extends to property limit.	<input type="checkbox"/>
<b>3 Composition of buffer</b>	Buffer contains only native vegetation and natural bedrock.	Buffer contains mostly native vegetation, natural bedrock and some non-invasive, introduced species.	Buffer has some native vegetation and mostly non-invasive introduced species.	Buffer has no native vegetation and mostly invasive and/or non-invasive introduced species.	<input type="checkbox"/>
<b>4 Property maintenance</b>	Aware of any especially sensitive buffers, including wetlands, ESA's, Areas of Natural and Scientific Interest (ANSI) and active in protecting them.	Aware of any especially sensitive buffers, including wetlands, ESA, ANSI and plans to protect them.	Aware of any especially sensitive buffers including wetlands, ESA, ANSI. No plans to protect them.	No awareness of any especially sensitive buffers including wetlands, ESA, ANSI and no plans to protect them.	<input type="checkbox"/>
	All trees, woody debris and leaves are left in place with no alterations.	Vegetation alterations are limited to pruning branches from trees to provide visibility.	Trees removed to provide visibility are concentrated in one area. Other vegetation is not removed.	Trees are removed throughout to provide visibility.	<input type="checkbox"/>

# Resource List

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## Natural Buffers and Shoreline Access

### *For more information....*

Fisheries and Oceans Canada  
The Shore Primer, Ontario Edition  
[www.dfo-mpo.gc.ca/regions/central/pub/shore-rivages-on/04-eng.htm](http://www.dfo-mpo.gc.ca/regions/central/pub/shore-rivages-on/04-eng.htm)

Muskoka Water Web  
[www.muskokawaterweb.ca/8/8.1/shorelines.htm](http://www.muskokawaterweb.ca/8/8.1/shorelines.htm)



The Great Blue Heron is one of many species of wildlife that benefit from a natural shoreline.  
Credit Kenton Otterbein

# Action Plan Worksheet # 7a- Natural Buffers and Shoreline Access

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Any ratings of 1 or 2 indicate areas where your property management needs to be improved to reduce the potential for environmental damage. Use the information from the worksheet and the resource section to help analyze your potential problems and decide what you can do to solve or control them. Remember, this is YOUR Action Plan. It must suit you and your property.

Topic Number	Workshop Theme	My Rating	Short-term Action	Long-term Action
3	Composition of buffer	2	Identify non-native plant species in the buffer zone.	Remove non-native plants and replace with native plants

## Gardening and Landscaping

# **Worksheet #7b – Trees and Plants on Your Property**

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### ***Why should you be concerned?***

- Native trees and plants provide food and shelter for wildlife. Their presence is critical to the health of our ecosystems and watersheds.
- Native plants have evolved as part of a greater ecological community. They are well adapted to local conditions and generally have few disease or insect problems. Using native species helps to integrate your property into the greater landscape.
- Tree and shrub roots anchor the soil and prevent erosion.
- Trees remove carbon dioxide, one of the main gases involved in climate change, from the atmosphere. They also help to improve the quality of the air that we breathe by absorbing and storing many air pollutants.
- Trees can reduce your energy bill. Deciduous trees can be strategically planted to provide shade from the summer sun. Similarly, in winter, coniferous trees on the north or west side, can provide shelter from cold winds.
- Trees add value to a property. They not only help to create an established feeling in a neighbourhood or property, they also improve the appearance.
- Invasive plant species are often difficult to eradicate and may introduce disease.
- Extensive lawns reduce biodiversity and require more maintenance than native species

### ***What you can do.***

1. Protect existing trees from insect and disease infestation and physical damage from machinery or weather events.
2. Identify mature and rare trees that you want to protect and include these in a long-term management plan.
3. Protect our forests! Reduce the spread of serious forest pests such as Emerald Ash Borer by not importing firewood from other regions.
4. Choose native plants. They are best suited to local conditions. Learn about the plant community in which you live, and select plants from a reputable nursery.
5. Never plant invasive plants on your property and understand what invasive species already exist in your area.
6. Know your soil type and depth. Most areas along eastern Georgian Bay have very shallow soils. Choose your plants accordingly.
7. Reduce your lawn area to only what is needed for particular activities and keep it as far as possible from any water-body or shoreline.
8. Use low-maintenance plants that don't require watering or fertilizing.

# Trees and Plants on Your Property: How do you rate?

Topic	Best <b>4</b>	Good <b>3</b>	Fair <b>2</b>	Poor <b>1</b>	Your Rating
<b>TREE ECOLOGY</b>					
<b>1 Understanding and appreciation for the role of trees in ecosystem health</b>	Proper instructions followed when planting trees,  <b>AND</b> tree species selected to suit existing site conditions,  <b>AND</b> priority given to native species.	Trees planted following proper instructions,  <b>AND</b> tree species selected to suit existing site conditions.	Non-invasive, exotic species are planted.	No consideration given to tree ecology in selection of new trees,  <b>OR</b> invasive species are planted.	<input type="checkbox"/>
	Stable but dead trees are left in place to provide habitat. Only hazard trees are felled and left to rot in place,  <b>AND</b> trees that overhang the water or fall into the water are left in place.	Both standing and hazard dead trees are felled and left to rot in place.	Some wood is left to rot and provide habitat while some is removed.	All felled wood is removed from your property,  <b>AND</b> trees are removed from the water.	<input type="checkbox"/>
	Trees and shrubs on slopes or near water are protected and never removed.	Only some trees (e.g., hazard trees) are removed from slopes and near water.	Many trees are removed from slopes and water's edge.	All natural vegetation is removed from the majority of your property  <b>*OR tree limbs that overhang water ways or shores are cut.</b>	<input type="checkbox"/>

\*These conditions may violate provincial legislation or municipal by-laws.

Topic	Best <b>4</b>	Good <b>3</b>	Fair <b>2</b>	Poor <b>1</b>	Your Rating
<b>TREE MANAGEMENT</b>					
<b>2 Tree maintenance and care</b>	All trees are protected against injury, and potential diseases,  <b>AND</b> no healthy trees are removed.	Trees in shoreline and watercourse buffers are protected,  <b>AND</b> no healthy trees are removed.	Trees are not protected,  <b>OR</b> some healthy trees are removed.	Lot is generally cleared.	<input type="checkbox"/>
	Branch pruning is done properly and at the right time to provide lake views.	Branch pruning is irregular but is done properly.		Trees are pruned carelessly or without regard for tree health and vigour.	<input type="checkbox"/>
<b>3 Knowledge of issues related to tree health</b>	Trees are watered properly and regularly for a minimum of three years after planting.  <b>AND</b> mulch is properly piled at least 3 inches away from tree trunk.	Trees are watered during hot, dry periods for the first three years after planting.  <b>AND</b> mulch is properly piled at least 3 inches away from tree trunk.	Trees are watered irregularly,  <b>AND</b> mulch is properly piled at least 3 inches away from tree trunk.	Watering is inadequate during the first three years following planting,  <b>OR</b> mulch is piled too close to the tree trunk, causing damage to bark.	<input type="checkbox"/>
	Have knowledge of potential insect and disease problems in your area,  <b>AND</b> a certified arborist is hired to assess tree health and development and to develop a long-term management plan.	A certified arborist is hired to assess tree health and development and to develop a long-term management plan.	Existing trees are checked periodically for disease or insect infestation.	No consideration is given to tree health or insect problems in your area.	<input type="checkbox"/>



**Tip**

Protect trees during construction by ensuring that there is no disturbance within the dripline.



**Tip**

Never pile mulch too close to the trunk of a tree. This can damage the bark, possibly girdling and killing the tree.



**Tip**

If necessary, ensure trees are properly staked after planting and that stakes are removed after 2 years.

Topic	Best <b>4</b>	Good <b>3</b>	Fair <b>2</b>	Poor <b>1</b>	Your Rating
<b>TREE MANAGEMENT</b> <i>continued</i>					
<b>4 Tree root system</b>	Tree rooting zone has adequate soil volume and conditions appropriate for the tree species selected.	Tree rooting zone is adequate but may need supplemental feeding.	Tree rooting zone is not less than 60% of appropriate volume and may require supplemental watering during dry spells.	Soil volume and growing conditions of rooting zone are inadequate for the tree species selected.	<input type="checkbox"/>
<b>5 Plant selection and control</b>	No invasive plants on property.	No new planting of invasive plants.  <b>AND</b> measures taken to eliminate existing invasive plants.	No new planting of invasive plants.	Continued use of invasive plants.	<input type="checkbox"/>
 <b>Tip</b> Be aware of the source of new plants when purchasing and ensure they are infection-free before planting.	Complete eradication and proper disposal of existing invasive plants on your property.	Long-term management plan for the eradication of existing invasive plants.	Short-term management plan for the eradication of existing invasive plants.	No attempts to eradicate invasive plants.	<input type="checkbox"/>
 <b>Tip</b> Cues for proper species selection can be gained by looking at nearby native plants that are thriving in the same conditions as your property.	Match tree and plant selection to your soil conditions,  <b>AND</b> use only native plants.	Tree and plant selection suits local soil and climate conditions,  <b>AND</b> non-invasive plants selected.	Occasional addition of nutrients to support non-invasive plants.	Tree and plant selection does not suit local soil and climate conditions.	<input type="checkbox"/>
			 <b>Tip</b> <b><i>At the Nursery: what you should ask...</i></b>		
			1. What native, local plants do you have? 2. Are they nursery grown or harvested from the wild? 3. Is there potential for invasion? 4. How can you control or eradicate it if necessary? 5. What are the nutrient and water requirements?		

Topic	Best <b>4</b>	Good <b>3</b>	Fair <b>2</b>	Poor <b>1</b>	Your Rating
<b>6 Garden monitoring</b>	Regular checks to ensure that invasive species have not established in gardens,  <b>AND</b> once spotted, invasive plants are immediately disposed of in an appropriate manner.	Regular checks to ensure that invasive species are not established in gardens.	Occasional checks to ensure that invasive species are not established in gardens,  <b>OR</b> once spotted, invasive plants are immediately disposed of in an inappropriate manner.	No checks to ensure that invasive species are not established in gardens,  <b>OR</b> once spotted, invasive plants are not disposed.	<input type="checkbox"/>
<b>7 Lawns</b>	No traditional lawn.    Learn about appropriate alternative groundcovers from local experts and plant them,  <b>AND</b> encourage local nurseries to stock native groundcovers.	Lawn is limited to area over the septic bed with no use of pesticides, fertilizers or irrigation.  Allow for a mix of native and non-invasive plants that tolerate some mowing and drought.	Lawn is kept to a minimum size and at a maximum distance from the shoreline.  Non-invasive plants used that tolerate some mowing and drought.	Much of property is given over to lawn,  <b>OR</b> lawn is used to the water's edge.  Species used require extensive use of irrigation, and fertilizer.  <b>OR</b> use of invasive species.	<input type="checkbox"/>

**Tip**  
 If planting a traditional lawn with a non-native grass, choose a grass that is hardy, pest resistant and non-invasive.

**Tip**  
 During hot, dry weather, allow grasses to go dormant.

# Resource List

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## Trees and Plants on Your Property

### ***For more information....***

#### **General Tree and Plant Advice**

Local Ministry of Natural Resources office (*see Blue Pages*)

Ontario Forestry Association

[www.oforest.on.ca](http://www.oforest.on.ca)

Management Forest Tax Incentive program  
Contact local Ministry of Natural Resources Office

[www.mnr.gov.on.ca](http://www.mnr.gov.on.ca)

Parry Sound-Muskoka Stewardship Council

[www.ontariostewardship.org/councils/parrysound-muskoka](http://www.ontariostewardship.org/councils/parrysound-muskoka)

Ontario Woodlot Association

[www.ont-woodlot-assoc.org](http://www.ont-woodlot-assoc.org)

The Forest Gene Conservation Association

[www.fgca.net](http://www.fgca.net)

The Society for Ecological Restoration (Ontario Chapter) - Native Plant Resource Guide. Order online:

[www.serontario.org](http://www.serontario.org)

Muskoka Heritage Foundation

Native Plant Sale (spring)

9 Taylor Road, Box 482

Bracebridge ON P1L 1T8

705 645 7393

[www.muskokaheritage.org](http://www.muskokaheritage.org)

#### **Planting for Nature**

Ministry of Natural Resources

Information Centre, Toronto (T): 416-314-2225

- Landscaping for Wildlife. Booklet.
- Shrubs for Wildlife. Pamphlet.

#### **Low Maintenance Lawns and Gardens**

Ministry of the Environment

[www.ene.gov.on.ca/en/land/pesticides/greenAlternatives.php](http://www.ene.gov.on.ca/en/land/pesticides/greenAlternatives.php)

Peterborough Green Up

[www.greenup.on.ca](http://www.greenup.on.ca)

#### **Invasive Species**

Canadian Wildlife Federation

[www.cwf-fcf.org](http://www.cwf-fcf.org)

Ontario Federation of Hunters and Anglers- Invading Species

[www.invadingspecies.com](http://www.invadingspecies.com)

#### **Books**

Deacon, G. 2006. *Green Tips: How to Save Money and the Planet*. Toronto, ON: Green Living Enterprises.

Rubin, C. 1990. *How to get your Lawn and Garden off Drugs: Pesticide-free Gardening for a Healthier Environment*. Madeira Park, BC: Harbour Publishing.

## **Dangerous Beauty: *the problem with invasive species***

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### ***Be aware of the plant that can grow anywhere...***

A well-intentioned 'gift' from a friend or neighbour may end up taking over your garden and spreading into nearby plant communities where it can have a disastrous impact on the health of the ecosystem. Being invasive depends on site conditions. It is possible that a well-contained plant in your garden may run rampant in a friend's garden. Never accept or give plants if you are unsure. The following is a partial list of invasive plants that are of concern in Ontario.

### **AVOID THE USE OF THESE PLANTS!**



Name: *Coronilla varia*  
Common name: Crown vetch  
Colours: Light rose flowers, medium green leaves.  
Size: Can reach 2 m (6.5 ft).  
Type: Perennial vine

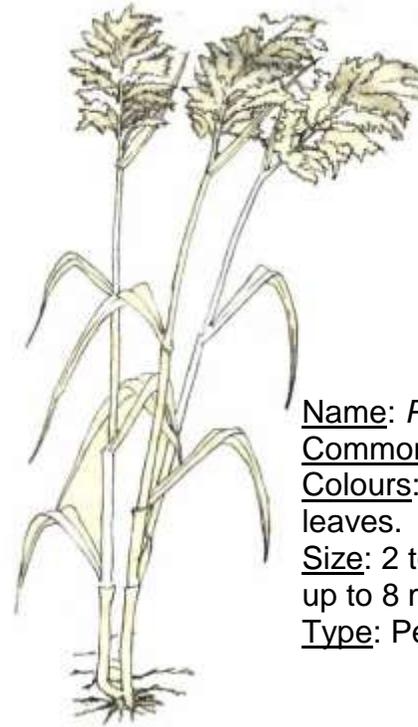


Name: *Aegopodium podagraria*  
Common name: Goutweed  
Colours: Insignificant white flowers, medium green or variegated leaves  
Size: Height 15 cm (6 in).  
Type: Common groundcover

## Dangerous Beauty: *the problem with invasive species*



Name: *Vinca minor*  
Common name: Periwinkle  
Colours: Violet-blue flowers, dark, glossy green leaves.  
Size: Height 10 cm (4 in).  
Type: Common groundcover



Name: *Phragmites australis*  
Common name: Common reed  
Colours: Bronze-purple tufts, light green leaves.  
Size: 2 to 4 m (6.5 to 13 ft), can grow up to 8 m (26 ft).  
Type: Perennial grass



Name: *Polygonum cuspidatum*  
Common name: Japanese knotweed  
Colours: Light white to pale pink tufts, medium green leaves.  
Size: 75 cm to 1.8 m (2 ½ to 6 ft)  
Type: Perennial



Name: *Lunaria annua*  
Common name: Silver Dollar  
Colours: Medium pink flowers, medium green leaves.  
Size: 30 to 90 cm (1 to 3 ft)  
Type: Biennial

## ***Dangerous Beauty: the problem with invasive species***

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Name: *Hesperis matronalis*  
Common name: Dame's Rocket  
Colours: Medium pink or light blue flowers, medium green leaves.  
Size: Height 75 cm (30 in), spread 60 cm (24 in).  
Type: Upright perennial



Name: *Hedera helix*  
Common name: Common English Ivy  
Colours: Dark green, glossy leaves. Occasionally, white striations visible along veins.  
Size: Height 10 m (30 ft), spread 5 m (15 ft)  
Type: Vigorous, evergreen self-clinging climber or groundcover

### **Additional Plants to Avoid**

#### Trees

- Norway maple (*Acer platanoides*)
- Scots pine (*Pinus sylvestris*)

#### Plants

- Chives (*Allium Schoenoprasum*)
- Sedums

#### Shrubs

- Japanese barberry (*Berberis thunbergii*)
- Oriental bittersweet (*Celastrus orbiculatus*)
- European highbush cranberry (*Viburnum opulus*)

# Alternatives to cosmetic pesticides

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Ontario's cosmetic pesticides ban took effect April 22, 2009. The requirements of the ban are detailed in Ontario Regulation 63/09 and the Pesticides Act, which was amended by the Cosmetic Pesticides Ban Act, 2008.

Pesticides cannot be used for cosmetic purposes on lawns, vegetable and ornamental gardens, patios, driveways, cemeteries, and in parks and school yards. There are **no** exceptions for pest infestations (insects, fungi or weeds) in these areas, as lower risk pesticides, biopesticides and alternatives to pesticides exist. More than 250 pesticide products are banned for sale and over 95 pesticide ingredients are banned for cosmetic uses.

## ***What you can do***

Successful landscapes rely on preventative measures and careful monitoring, just like your health. Timely effort saves you time and hassle later on and your garden will thank you for it!

- Try old-fashioned remedies for pests, such as borax sprinkled around ant nests, insecticidal soap for sap-suckering insects, and baking soda or sulphur for fungal diseases.
- To make plants less appetizing, use a garlic spray (10 cloves of garlic in 1 litre (4 cups) of water and heated for 5 minutes.
- Bring in reinforcements. Create suitable habitat for birds that will eat insect pests.

## ***How to have a healthy, low-maintenance lawn***

- In hot, dry weather allow grass to become dormant. Water 7-12 millimetres (0.25-0.5 inches) every two or three weeks. Grass will look brown but it is dormant, not dead.
- Encourage deep rooting by watering infrequently but thoroughly. Your lawn only needs 2.5 centimetres of water per week.
- Mow when the grass is as dry as possible and leave your grass at least 8 centimetres (3 inches) long. This encourages root growth and lessens moisture loss. Leave grass clippings on the lawn and you can increase soil fertility by up to 50%.
- Aerating your lawn improves rooting conditions.
- If you do use a fertilizer, choose a slow-release product. The nutrients are released slowly, preventing 'lawn burn' and water contamination.
- Remove unwanted plants from lawn by hand using long handled tools. It is easier to remove weeds when the ground is damp. Alternatively, pour boiling water or white vinegar over the exposed roots of unwanted plants.
- Spread a layer of natural mulch 8-10 centimetres (3-4 inches) thick over your garden. This will prevent weed seeds from germinating.
- Appropriately dispose of invasive plants. Check the Resources List for information on the control of invasive species.

# Action Plan Worksheet # 7b- Trees and Plants On Your Property

Any ratings of 1 or 2 indicate areas where your plant selection and use needs improving to reduce the potential for environmental damage. Use the information from the worksheet and the resource section to help analyze your potential problems and decide what you can do to solve or control them. Remember, this is YOUR Action Plan. It must suit you and your property.

Topic Number	Workshop Theme	My Rating	Short-term Action	Long-term Action
7	Lawns	2	Identify areas of lawn that will be naturalized. Research native plants that are suitable for the area.	Plant native plants and reduce lawn to minimum size.

# Gardening and Landscaping

## Worksheet #7c – Nutrients

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Use this worksheet to learn about the importance of nutrients in the landscape.

### *Why should you be concerned?*

- Nutrients have an important and beneficial role in plant growth and soil amendments. As plant roots take up nutrients from the soil over time, the soil may become depleted, resulting in less vigorous plant and lawn growth.
- Over-application of fertilizers can result in fertilizer running off the garden or lawn. This can contaminate both groundwater and surface water and encourage algae and algal blooms.
- Our activities both inland and along the shoreline affect the nutrient-loading of our rivers and lakes.
- We can all potentially contribute to harmful eutrophication, which will reduce water quality and possibly affect our use of the water.

### *What you can do.*

1. Test to find out the nutrient level in your soil before adding any nutrients.
2. Effectively manage nutrients in an environmentally responsible manner.
3. Reduce your nutrient application volume.
4. Plant species of shrubs and plants that require little or no fertilizing.

### N-P-K

**Nitrogen (N)** for leaf development and vivid green color.

**Phosphorous (P)** for root growth.

**Potassium (K)** for root development and disease resistance.

# Nutrients: How do you rate?

Topic	Best <b>4</b>	Good <b>3</b>	Fair <b>2</b>	Poor <b>1</b>	Your Rating
<b>FERTILIZER USE AND APPLICATION</b>					
<b>1 Understanding of plant requirements and fertilizer use</b>	Good understanding of plant nutrient requirements,  <b>AND</b> soil is tested to determine nutrient requirements before fertilizing. Fertilizer used accordingly.	Good understanding of plant nutrient requirements,  <b>AND</b> plants are monitored regularly to detect nutrient deficiencies. Fertilizer used accordingly.	Basic understanding of plant nutrient requirements,  <b>AND</b> occasional monitoring for plant nutrient deficiencies. Fertilizer used regularly.	No consideration for soil condition or plant nutrient requirements.  <b>OR</b> excessive use of fertilizer	<input type="checkbox"/>
	Fully-composted manure and yard waste are used appropriately to amend soil.	Fully-composted manure and yard waste are used appropriately to amend soil,  <b>OR</b> controlled spot use of fertilizer if necessary.	Occasionally apply fertilizer over the entire garden and/or the lawn.	Over-application of nutrients,  <b>OR</b> poor care taken in following package instructions.	<input type="checkbox"/>
	Locally-produced, well-rotted compost or manure is used.	Local, well-rotted compost or manure is used,  <b>OR</b> slow-release synthetic fertilizer is used.	Well-rotted compost or manure is used but not obtained from local sources,  <b>OR</b> a quick-release fertilizer is used but the nutrient composition is appropriate for the situation.	A quick-release synthetic/commercial fertilizer is over-used.	<input type="checkbox"/>

Topic	Best <b>4</b>	Good <b>3</b>	Fair <b>2</b>	Poor <b>1</b>	Your Rating
<p><b>2 Application practices and water access</b></p> <div data-bbox="52 553 411 807" style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>Tip</b> NEVER compost invasive species unless you are sure that there are no seeds present and that composting will effectively kill the root system.</p> </div>	<p>Nutrient application is a minimum of 30 metres (100 feet) from wells, water intakes, streams and water courses,</p> <p><b>AND</b> a permanently vegetated buffer, greater than 3 metres (10 feet) wide runs between the area of nutrient application and any well, water intake, stream or water course,</p> <p><b>AND</b> check to ensure that heavy rain or thunderstorms are not forecast for at least 24 hours following application.</p>	<p>Nutrient application is a minimum of 30 metres (100 feet) from wells, water intakes, streams and water courses,</p> <p><b>AND</b> check to ensure that heavy rain or thunderstorms are not forecast for at least 24 hours following application.</p>	<p>Nutrient application is a minimum of 30 metres (100 feet) from wells, water intakes, streams and watercourses.</p> <div data-bbox="1171 591 1843 967" style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>Tip</b> <b>Composting in Black Bear Habitat</b> Keep compost clean and odour free by using lime, wood ashes and brown material, e.g. leaves, as well as turning often. Never compost meat, fish, oil, grease or dairy products (including products made with milk such as bread). Locate compost well away from house and bear travel ways. If you have problems you may:</p> <ul style="list-style-type: none"> <li>• Consider using an electric fence around your composter or use an indoor worm composter.</li> <li>• Compost only yard waste outdoors (e.g. cut grass, leaves).</li> </ul> </div>	<p>Fertilizer, compost or manure applied to frozen or saturated soils, or on slopes where surface run-off is likely,</p> <p><b>*OR closer than 30 metres (100 feet) to wells, water-intakes, streams and water courses.</b></p>	<div data-bbox="1864 326 1940 399" style="border: 1px solid black; width: 36px; height: 45px; margin: 0 auto;"></div>
<b>COMPOST MANAGEMENT</b>					
<p><b>3 Composting practices</b></p>	<p>Household compost is rodent proof,</p> <p><b>AND</b> compost composition is monitored and mixed regularly,</p> <p><b>AND</b> compost is used on-site.</p>	<p>Compost composition is monitored and mixed regularly,</p> <p><b>AND</b> compost used on-site.</p>	<p>Household compostable waste is sent to local composting facility.</p>	<p>Compostable material not composted.</p>	<div data-bbox="1864 980 1940 1053" style="border: 1px solid black; width: 36px; height: 45px; margin: 0 auto;"></div>

*\*These conditions may violate provincial legislation or municipal by-laws.*

Topic	Best <b>4</b>	Good <b>3</b>	Fair <b>2</b>	Poor <b>1</b>	Your Rating
<b>4 Water features and ponds</b>	There is no artificial water feature or pond on the property.	Water feature and landscaping are designed to minimize the amount of light falling on water feature,	Water feature is located as far from waterways or open natural water as possible.	Indiscriminate design, placement and chemical treatment of artificial water features.	<input type="checkbox"/>

 **Tip**

If you are experiencing problems with algae in your water feature or pond, be sure to properly diagnose the cause of the problem before attempting treatment.

**AND** water is continuously moving in water feature.

**AND** water feature is located as far from waterways or open natural water as possible.

 **Tip**

Test your soil for nitrogen, phosphorous and potassium levels before adding nutrients. Contact a soil testing lab for more details on soil sampling. See the *Yellow Pages* for a listing near you.

# Resource List

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## Nutrients

### ***For more information....***

#### **Organizations**

Composting Council of Canada  
(T): 1-877-571-GROW  
[www.compost.org](http://www.compost.org)

Ontario Horticultural Association  
[www.gardenontario.org](http://www.gardenontario.org)

Montreal Botanical Garden (Fertilizers and Soil  
Amendments)

[www2.ville.montreal.qc.ca/jardin/en/info\\_verte/fertilisation/besoins\\_nutritifs.htm](http://www2.ville.montreal.qc.ca/jardin/en/info_verte/fertilisation/besoins_nutritifs.htm)

North Shore Recycling Program (Compost)  
[www.nsrp.bc.ca/naturalyard/composting.html](http://www.nsrp.bc.ca/naturalyard/composting.html)

#### **People**

Local Master Gardener representative (T): 905-309-3959

Local Horticultural Society

#### **Books**

Smillie, J. and G. Gershuny. 1999. *The Soul of Soil* (4th Ed.)  
White River Junction, Vermont: Chelsea Green Publishing  
Company.  
ISBN 1-890132-31-4

#### **Soil Testing**

For a soil testing lab near you, see the *Yellow Pages*

# Action Plan Worksheet # 7c- Nutrients

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Any ratings of 1 or 2 indicate areas where your management of nutrients need some changes to reduce the potential for environmental damage. Use the information from the worksheet and the resource section to help analyze your potential problems and decide what you can do to solve or control them. Remember, this is YOUR Action Plan. It must suit you and your property.

Topic Number	Workshop Theme	My Rating	Short-term Action	Long-term Action
1	<i>Understanding of plant requirements and fertilizer use</i>	2	<i>Research plant nutrient requirements and test soil nutrient levels.</i>	<i>Monitor nutrient deficiencies and apply natural fertilizers only when necessary.</i>

# Gardening and Landscaping

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## Worksheet #7d – Water Efficiency

Use this worksheet to learn about water efficiency in the landscape.

### ***Why should you be concerned?***

- There is a limited supply of fresh, clean water.
- If groundwater is used at a rate faster than it can be replenished by the water cycle, severe shortages and damage to aquatic systems may result.
- Whether your drinking water comes from a private or a municipal system, we're all pulling water from the same source. Both surface and well water require energy to treat and pump.

### ***What you can do.***

1. Calculate how much water you use in your landscaping and gardening. On-line water calculators are available at [www.on.ec.gc.ca](http://www.on.ec.gc.ca). Purchase a rain gauge to monitor how much water your yard receives.
2. Choose proper equipment that is water efficient, such as soaker hoses rather than sprinklers. Keep equipment in good condition.
3. Consider plants that grow well in local conditions without irrigation.
4. Divert downspouts into screened rain barrels and use to water your plants.

# Landscape Water Efficiency: How do you rate?

Topic	Best <b>4</b>	Good <b>3</b>	Fair <b>2</b>	Poor <b>1</b>	Your Rating
<b>WATER MANAGEMENT AND USE</b>					
<b>1 Knowledge of water use in the landscape</b>	Water use is monitored regularly and steps are taken to improve efficiency.		Water use is monitored on occasion.	Water use is not monitored.	<input type="checkbox"/>
	Hoses, facets etc are regularly monitored for leaks. Leaks are fixed immediately.		Leaks are repaired only when they become a problem.	Leaks are not repaired.	<input type="checkbox"/>
<b>2 Irrigation equipment type</b>	No irrigation equipment used.	Irrigation equipment applies water to plant rooting area only (e.g., drip system).	Low-level sprinkler system or mobile sprinkler head.	Fixed sprinkler head.	<input type="checkbox"/>
	<b>3 Irrigation design</b>	System is properly designed and sized for the size of the garden or landscaped area.			Irrigation system too large for the garden area.
No ponding of irrigation water.		Water ponds briefly but then infiltrates soil.	Irrigation water ponds but does not run off the property.	Water runoff along the surface and into any underground drains.	<input type="checkbox"/>

Topic	Best <b>4</b>	Good <b>3</b>	Fair <b>2</b>	Poor <b>1</b>	Your Rating
<b>WATER MANAGEMENT AND USE</b> <i>continued</i>					
<b>4 Watering your plants</b>	Watering schedule is adjusted according to rainfall, stage of plant development, use of water gauges, and plant appearance.	Watering schedule is sometimes adjusted according to rainfall, stage of plant development, use of water gauges, and plant appearance.	Monitored watering limited to when establishing new plants.	Watering is not adjusted according to rainfall, stage of plant development, use of water gauges, and plant appearance.	<input type="checkbox"/>
	Water only in the early morning to reduce the chance of fungal disease on plants	Water only in the early morning or early evening.	Water only in the late evening, thereby increasing the chance of fungal disease.	Water during the hottest hours of the day.	<input type="checkbox"/>

# Resource List

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## Landscape Water Efficiency

### ***For more information....***

Peterborough Green Up  
Factsheet: Low Water Gardens  
[www.greenup.on.ca/index](http://www.greenup.on.ca/index)

Muskoka Watershed Council  
Factsheet: Healthy Lawns and Garden Naturally  
[www.muskokaheritage.org/watershed/watershedpublications](http://www.muskokaheritage.org/watershed/watershedpublications)

York Regional Municipality  
Water Efficiency Today... Water for Tomorrow  
[www.water4tomorrow.com](http://www.water4tomorrow.com)

City of Toronto  
Water Efficiency Plan  
[www.toronto.ca/watereff/plan.htm](http://www.toronto.ca/watereff/plan.htm)

# Action Plan Worksheet # 7d- Landscape Water Efficiency

Any ratings of 1 or 2 indicate areas of your landscape management that require changes to reduce the potential for environmental damage. Use the information from the worksheet and the resource section to help analyze your potential problems and decide what you can do to solve or control them. Remember, this is YOUR Action Plan. It must suit you and your property.

Topic Number	Workshop Theme	My Rating	Short-term Action	Long-term Action
4-a	Watering Your Plants	2	Research water needs of your plants and purchase a water gauge.	Water schedule always adjusted according to rainfall and plants requirements.