

The Warrick Property

243 Muldrew Lake, Muldrew Lake

Planting plan created by The District Municipality of Muskoka

Survey Date: 09/14/2018 • Planting Date: 09/16/2018

Funded by • Restore Your Muskoka Shore • Great Lakes Guardian Community Fund •



Schedule A:

Plants & Property

Land Characteristics

This planting plan is designed based on the land characteristics identified during the day of the site visit. Plants are chosen according to the soil and light conditions on your property. The number of plants chosen for each planting compartment takes into account the square metre area of the space, as well as the amount of current vegetation cover. **Your property is part of ecoZone: 4b**

Land Characteristics by Compartment

	Length	Width	Area	pH	Soil	Moisture	Light	Height
A	10m	4m	40m ²	acidic, normal	sandy, loamy	normal	partial sun, shade	max 2m
B	5m	2m	5m ²	acidic	sandy, humus	dry	partial sun, shade	max 2m
C	5m	1m	5m ²	acidic	sandy	dry	partial sun, shade	max 2m
D	5m	5m	25m ²	acidic	sandy	normal, moist	partial sun, shade	max 2m
E	3m	2m	3m ²	acidic	sandy	dry	partial sun, shade	
F	2m	2m	4m ²	acidic	sandy	dry	partial sun, shade	
G	3m	1m	3m ²	acidic	loamy	normal	partial sun	max 1.5m
H	4m	2m	8m ²	acidic	sandy, humus	dry	partial sun	max 2m
	37m	2.38m	93m ²					

Plant Selection Summary

The following shrubs and trees are chosen for their suitability and survivability given the current soil and light conditions in each compartment on your property, as well as preferable features.

Plant Species	A	B	C	D	E	F	G	H	Potted	Bareroot	Wildflower
Purple Coneflower	2										2
Sweet Oxeeye	3			3	3						9
Wild Bergamot	1	2									3
Blue Vervain	2		1								3
Pearly Everlasting	1										1
New England Aster	2	1									3
White Heath Aster	2	1									3
Oswego Tea (Red Bergamot)		3									3
Chokecherry			1					3	4		
Blue Flag Iris			3								3
Yarrow			2								2
Spotted Joe-Pye Weed			3								3
Tamarack				1					1		
Black Elderberry				1					1		
Speckled Alder				1					1		
White Birch				2					2		
Showy Mountain-Ash				3					3		
Black Walnut						1			1		
Ostrich Fern							3		3		



Subtotal	13	7	10	11	3	1	3	3	16	0	35
Totals	51										

Plant Information

The following table summarizes key information about each plant selected for your property.



Purple Coneflower

Height: 1m

Purple Coneflower is a perennial wildflower that typically grows about 1 m tall. This plant may also be known by the common name Echinacea. The leaves are dark green coloured, alternately arranged, lance shaped with pointed tips, and have serrated margins. The flowers are showy, pale purple to pink, have 15-20 toothed petals, appear atop erect stems, and bloom between June and August. This wildflower spreads well and can be used to naturalize un-vegetated areas. The roots can be useful for controlling erosion and stabilizing shorelines. This flower blooms for long periods. The flowers are beneficial to pollinator species, like bees and butterflies. The seeds are also beneficial to wildlife species, like birds and small mammals.



Sweet Oxeye

Height: 2m

Sweet Oxeye, also known as False Sunflower, is an attractive, herbaceous, perennial wildflower, which can grow to almost 2 m tall. The flowers are perched atop a stiff stem, with a brownish-yellow center cone surrounded by bright yellow to orange rays. Leaves are 5-12 cm long and 2-8 cm wide, oppositely arranged along the stem, ovate to lanceolate in shape, and have a toothed margin. This wildflower grows best in moist, well-drained soils, preferring full sun, but will tolerate partial shade. Some common natural habitats for the Sweet Oxeye are prairies, meadows, forest edges, and stream banks. Sweet Oxeye is drought tolerant so could be planted in difficult dry sites, but will grow best with regular watering. A large variety of insect species are attracted to the Sweet Oxeye, making it a great addition to a habitat garden.



Wild Bergamot

Height: 1 m

Wild Bergamot is a perennial wildflower species that is member of the mint family and can grow about 1 m tall. Its stems are light green and smooth with abundant branching on the upper half. The leaves are oppositely arranged, broadly lanceolate shaped, 6-10 cm long, and have toothed edges. The also leaves emit a aromatic minty/oregano scent when crushed. The flowers are showy, pink/lavender coloured, appear on the ends of flowering stems, and bloom between July and September. The flowers bloom in the center of the head first, moving outwards creating a wreath. The flowers are beneficial to pollinator species, like bees and butterflies. This wildflower spreads well and can be used to naturalize un-vegetated areas. The roots can be useful for controlling erosion and stabilizing shorelines.



Blue Vervain

Height: 1.5 m

Blue Vervain is a perennial wildflower species that grows about 1.5 m in height. It has a slender, upright form with reddish-green coloured, rough-haired stems. Its leaves are oppositely arranged, lance-shaped, and on short petioles with large serrations along the edge. Occasionally, there are two lobes present at the base of the leaves. The flowers are showy, blueish purple coloured, have five petals, appear on dense spikes at the top of flowering stems, and bloom between July and September. The flowers bloom first at the bottom of the spike, travelling upwards and blooming in bands. This plant spreads well and can form small colonies. The flowers are beneficial to pollinator species, like bees and butterflies. The seeds are also beneficial to wildlife species, like birds and small mammals.



Pearly Everlasting

Height: 1m

Pearly Everlasting is a medium sized wildflower species which grows up to 1 m in height. The leaves are grey-green, long and narrow, simple, and alternately arranged. The flowers are small, white colored with yellow centers, have silvery hue appearance, appear in attractive clusters, and bloom between July and August. It is also a great attractant for the American Lady Butterfly because it is a host for its larvae. Historically, Pearly Everlasting was used as a salve to treat burns, bruises, swelling, and joint pain.



New England Aster

Height: 2m

New England Aster is a showy perennial wildflower with an average height of about 120 cm but can grow up to 2 m tall. It has a central stem with branching in the upper half covered in fine white hairs. Its leaves clasp these stems as they have no petioles. The basal leaves are spatula-shaped, while the stem leaves are alternate and lance-shaped. The leaves are also covered in soft white hairs. Its showy flowers are clustered at the ends of the central stem and surrounding branches. Each flower is composed of 30+ deep purple ray florets surrounding numerous golden disk florets. These plants excel in moist soils with lots of sun. It is often found along lake shorelines, forest edges, in wet meadows, or in marshes/swamps. New England Aster reproduces and spreads using both achenes, which are dispersed by wind and a rhizomatous root system, allowing this plant to colonize open areas. It is also known to easily colonize recently disturbed areas so could be considered for difficult sites that are hard to grow on. This wildflower species attracts lots of pollinators such as bees and butterflies but rarely attracts wildlife, such as wild turkey, deer, and rabbit.



White Heath Aster

Height: 1 m

White Heath Aster is a small wildflower species which can grow up to 1 m tall. This plant has a small, dense, heath-like appearance. It has green to grey, hairy stems with numerous alternate, stemless leaves. Its upper leaves are linear, 1-6 cm long, and have a spine tip. The lower leaves are broadly lanceolate and typically fall off by the time the flowers bloom. At the tops of the stems are short wand-like clusters of small white flowers. Each flower has 12 white ray florets surrounding numerous yellow disk florets. There are also many needle-shaped green bracts along the stem. The flowers give way to small seeds with tufts of hair to help in dispersal as it spreads via seeding and by rhizomatous roots. This wildflower species attracts butterflies and bees, as well as wild turkeys, deer, and rabbits.



Oswego Tea (Red Bergamot)

Height: 50 cm

Oswego Tea is a showy perennial wildflower species that typically grows about 50 cm in height. This plant may also be known by the common names Red Bergamot or Scarlet Beebalm. The leaves are dark green, oval shaped, have a minty fragrance. The unique flowers are bright red and grow in dense rounded clusters, with individual tubular flowers that bloom between May and October. The beautiful flowers of Oswego Tea attract various pollinator species like hummingbirds, butterflies, and bees. The Oswego Tea plant is susceptible to a common fungal disease, called powdery mildew, when planted in dry soils. Historically, the leaves of the plant have been used for antiseptic purposes, as well as poultices to heal minor wounds and skin infections.



Chokecherry

Height: 6-9 m

The Chokecherry is a large deciduous shrub or small tree which grows between 6 and 9 m tall and is a member of the Rose family. It produces a twisted or crooked trunk as well as a narrow, oval to round crown composed of many slender branches. Leaves are alternately arranged, simple, have a deep green upper surface, and light matte green undersides with tufts of hair at the vein axils. During the fall, foliage turns a vibrant deep red to fire yellow or orange. Between May and June, small showy white flowers grow in cylindrical clusters on the terminal ends of branches. By mid-August, flowers turn into shiny deep red or black cherries, which hang in elongated clusters. The fruit is ripe by September and provides a food source for birds and small mammals. The Chokecherry is often found as pure stands forming thickets, or mixed with other early succession shrub and tree species. This fast-growing plant can quickly invade logged land, abandoned farms, and exposed shorelines. The fibrous and wide-spreading root system of this shrub make it an ideal plant for erosion control and bank stabilization. This species possesses the ability to withstand moderate flooding and drought.



Blue Flag Iris

Height: 0.5 m

The Blue Flag Iris is a showy perennial wildflower that typically grows about 0.5 m in height. This plant may also be known by the common name Harlequin Blue Flag. The leaves are light green, sword-shaped, slightly arched or erect, and appear growing out as a cluster around the base of the plant. The attractive blue flowers start to bloom in the early spring, emerging from a tall flowering stalk that can reach up to 1 m. The flowers are beneficial to pollinator species, like bees and butterflies. The seeds are also beneficial to wildlife species, like birds and small mammals.



Yarrow

Height: 0.5 m

Yarrow is a small perennial wildflower species that can grow up to 0.5 m in height. The leaves are dark green coloured, pinnately compound, aromatic when crushed, and are feather-shaped, resembling a fern. The flowers are small, creamy white coloured, have yellow honeycomb centers, appear in wide clusters, and bloom between June and September. This flower blooms for long periods. This wildflower spreads well and can be used to naturalize un-vegetated areas.



Spotted Joe-Pye Weed

Height: 1.5 m

Spotted Joe-Pye Weed is a colourful wildflower species that can grow up to 1.5 m tall and can spread about 1 m. It has a plain or spotted purple stem, which is sometimes covered in fine hairs. The leaves are large, lanceolate shaped, have serrated edges, and appear in whorls of 3-5. The flowers are showy, fragrant, bright pink/purple coloured, have 8-20 disk florets, appear in clusters at the top of a flowering stem, and bloom in mid to late summer. The flowers are beneficial to pollinator species, like bees and butterflies. This plant spreads well and can form small colonies. The roots can be useful for controlling erosion and stabilizing shorelines.



Tamarack

Height: 20 m

Tamarack is a small to medium sized, deciduous coniferous tree species that grows up to 20 m tall. This plant may also be known by the common name American Larch. The bark is scaly and reddish brown coloured. The needles are delicate, 2-4 cm long, blueish-green coloured, grow in clusters of 15 to 25, and change golden yellow in the fall. This tree provides food and habitat for wildlife species, including birds and mammals. Tamarack is a fast-growing, long lived species that can live up to 150 years and is found across all of Canada. The wood from this tree is decay-resistant and has been used to make railway ties, posts, and crates. Tamarack is considered unique because it is the only conifer species to drop its needles in the fall.



Black Elderberry

Height: 4 m

The Black Elderberry is a large, fast-growing, deciduous shrub or small tree, which typically grows to 4m. This species tolerates a variety of conditions and is commonly found in sunny locations with well-drained soils. Black Elderberry can be single or multi-stalked with numerous branches creating a full, round body. Leaves are compound, with 5-7 leaflets that grow opposite each other along the branch. During the fall, leaves tend to turn a pale yellow. During late May to early June, this species produces flowers that are ivory white and grow in flat topped clusters. By late August, flowers turn to glossy, deep purple fruit, which attract a variety of wildlife like songbirds and small mammals. Ripe fruit is edible for humans and is commonly made into jams and jellies. The root system of this species is shallow, and can form colonies through suckering.



Speckled Alder

Height: 8m

The Speckled Alder is a large shrub species which can grow to 8m. This species produces alternate, egg-shaped, and double-toothed leaves with prominent veins. The stem initially begins reddish-brown and hairy, becoming dark brown and hairless with age. The bark also develops prominent orange-white speckles as it matures, hence the common name. The Speckled Alder produces male and female catkins on the same tree. Wingless nutlets drop from the female catkins during autumn. This species is ideal for rehabilitation applications because its roots contain nodules with nitrogen fixing bacteria, which converts nitrogen to a usable form and increases this nutrient in the soil. Speckled Alder requires moist soils and can usually be found in wet organic swamps, along shorelines, and in moist hardwood forests.



White Birch

Height: 15-25m

The Paper Birch is a medium-sized (15-25m), deciduous tree which may also be referred to as White Birch or Canoe Birch. This species produces a sparse, irregular crown which arises from a slender trunk. This tree is best known for distinctive white, horizontally flaking bark, from which its name is derived. The Paper Birch produces light green, egg-shaped, 5-10 cm long leaves alternately arranged. During the fall, the light green foliage turns a bright yellow colour. During the spring, catkins appear and produce winged seed keys which mature and drop between the fall and following spring.



Showy Mountain-Ash

Height: 15m

The Showy Mountain Ash is a fast growing, deciduous tree which is often planted as an ornamental due to its colourful flowers and berries. This species grows from a straight, narrow, branchless trunk that gives way to a narrow crown, reaching a height of 15m. The bark can be greyish-green or golden-brown and turns scaly with age. As the tree ages, the crown spreads and opens to a more rounded form. Leaves produced are compound with 13-17 leaflets arranged alternately along the branches. Leaves are a vibrant light green and the narrowly elliptical leaflets have tapered tips and fine teeth from tip to middle. During the fall, the foliage turns bright yellow to red. Early in the spring, showy, white flowers bloom in clusters on the terminal ends of branches. They produce large clusters of red berries that remain on the tree throughout the winter. These berries provide an important winter food source for overwintering birds and mammals.



Black Walnut

Height: 25-38m

The Black Walnut is a large deciduous tree species, reaching heights of 25-38m. It has a low, wide-spreading round crown composed of stout branches on a short trunk. This species produces a deep root system supported by lateral spreading secondary roots. It is an excellent tree for shoreline rehabilitation and erosion control. The chemical compound juglone is secreted from its roots and decaying leaves, which prevents many other plant species from establishing within the spread of its root system. The Black Walnut is naturally found along riparian zones of lakes and rivers within Southern Ontario. This species produces compound leaves which turn yellowish-green during autumn. Tiny, green, walnut-like flowers appear during the spring, turning into walnuts during the summer. Then in the fall, the walnuts ripen and drop. The Black Walnut is valued for its woodworking potential due to its attractive grain and pliability.



Ostrich Fern

Height: 1.5 m

The Ostrich Fern is a coarse, erect to arching perennial fern, that can grow up to 1.5 m in height. The stems are clustered and arching while the leaves are ostrich-plume shaped, widest near top, and very gradually narrowed to the base. The size of the leaves grow up to 1.5 m long and 12-40 cm wide, with around 40 pairs of leaflets or pinnae. The leaflets are long, narrow-pointed, and ascending. The leaves are fertile, with spore clusters on the undersides of sub-leaflets.

Compartment A

Naturalization Area

Pearly everlasting placeholder for silver sage wormwood

- ⚖️ PH: acidic, normal
- 🌱 DEPTH: potted, wildflowers
- 💧 MOISTURE: normal
- 🌱 SOIL TYPE: sandy, loamy
- 📏 PLANT HEIGHT: max 2m
- ☀️ LIGHT CONDITIONS: partial sun, shade



Purple Coneflower

2



Wild Bergamot

1



Pearly Everlasting

1



Sweet Oxeeye

3



Blue Vervain

2



New England Aster

2



White Heath Aster

2

Compartment B

Naturalization Area

Heath aster represents sky blue aster

- ⚖ PH: acidic
- 🌱 DEPTH: potted
- 💧 MOISTURE: dry
- 🌾 SOIL TYPE: sandy, humus
- 📏 PLANT HEIGHT: max 2m
- ☀️ LIGHT CONDITIONS: partial sun, shade



Wild Bergamot

2



New England Aster

1



White Heath Aster

1



Oswego Tea (Red Bergamot)

3

Compartment C

Naturalization Area

Yarrow represents boneset

- ⚖️ PH: acidic
- 🌱 DEPTH: potted
- 💧 MOISTURE: dry
- 🌀 SOIL TYPE: sandy
- 📏 PLANT HEIGHT: max 2m
- ☀️ LIGHT CONDITIONS: partial sun, shade



Blue Vervain

1



Chokecherry

1



Blue Flag Iris

3



Yarrow

2



Spotted Joe-Pye Weed

3

Compartment D

Naturalization Area

- ⚖ PH: acidic
- 🌱 DEPTH: potted
- 💧 MOISTURE: normal, moist
- 🌾 SOIL TYPE: sandy
- 📏 PLANT HEIGHT: max 2m
- ☀️ LIGHT CONDITIONS: partial sun, shade



Sweet Oxeye

3



Tamarack

1



Black Elderberry

1



Speckled Alder

1



White Birch

2



Showy Mountain-Ash

3

Compartment E

Naturalization Area

- ⚖️ PH: acidic
- 🌱 DEPTH: potted
- 💧 MOISTURE: dry
- 🌀 SOIL TYPE: sandy
- ☀️ LIGHT CONDITIONS: partial sun, shade



Sweet Oxeye

3

Compartment F

Naturalization Area

- ⚖ PH: acidic
- 🌱 DEPTH: potted
- 💧 MOISTURE: dry
- 🌀 SOIL TYPE: sandy
- ☁ LIGHT CONDITIONS: partial sun, shade



● Black Walnut
1

Compartment G

Naturalization Area

- ⚖ PH: acidic
- 🌱 DEPTH: potted
- 💧 MOISTURE: normal
- 🌀 SOIL TYPE: loamy
- 📏 PLANT HEIGHT: max 1.5m
- ☀ LIGHT CONDITIONS: partial sun



Ostrich Fern

3

Compartment H

Naturalization Area

- ⚖ PH: acidic
- 🌱 DEPTH: potted
- 💧 MOISTURE: dry
- 🌀 SOIL TYPE: sandy, humus
- 📏 PLANT HEIGHT: max 2m
- ☀ LIGHT CONDITIONS: partial sun



Chokecherry

3



Schedule B

Financial Summary

Project by: The District Municipality of Muskoka

Shoreline Re-Naturalization Starter Kit includes: free site visit, customized re-naturalization planting plan for your shoreline property, native plants including free bare root (small) and potted (large) plants and wildflowers, coconut fibre pads to deter grass from growing around new plantings, tree guards for all deciduous trees, mulch for your wildflowers, Plant Care Guide with instructions on how to take care of your new plants, Habitat Creation Guide and a Wildflower Garden Guide.

Our planting plans are created onsite with you and provide detailed information and plans to re-naturalize your shoreline property. We take photos of areas for planting and overlay native plants that are well suited to your property based on site conditions such as soil type and sunlight availability.

We will work with you to create a plan that works for you including options for low growing plants in areas where views are important.

Item	Quantity	Cost/Item	Subtotal
Starter Kit fee			\$300
Free potted plants	16	\$0	\$0
Free bareroot plants	0	\$0	\$0
Free wildflowers	30	\$0	\$0
Paid wildflowers	5	6.00	30.00
Total costs			330.00



Schedule C

Project Agreement

Stewardship Agreement

Please indicate your agreement to this proposed plan by signing the following Stewardship Agreement and submitting it, along with your financial contribution, to:

The District Municipality of Muskoka

70 Pine Street Bracebridge, Ontario P1L 1N3

Plant Availability

Please note that plant species may need to be changed based on plant stock availability at the time of ordering.

Project Completion

Upon receiving your signed stewardship agreement and financial contribution, a date will be booked for you to pick up your Natural Edge Kit. The District Municipality of Muskoka will supply all plants and materials. If you are paying for the planting to be completed for you, a date will be arranged for The District Municipality of Muskoka to plant your shoreline, bringing the plants and materials with them. If there are particular dates that you would prefer, we will do our best to accommodate your requests.

The Natural Edge Stewardship Agreement with The District Municipality of Muskoka

Agreement made this _____ Day of the Month of _____ in the Year _____.

BETWEEN Wanda Warrick 243 Muldrew Lake Ontario
(Hereinafter called the OWNERS)

AND **The District Municipality of Muskoka** 70 Pine Street
Bracebridge, Ontario P1L 1N3 (Hereinafter called DMM)

WHEREAS the Owners and DMM have met and discussed plans for shoreline naturalization on the specified area(s) in Schedule A existing on the Owners' land;

WHEREAS the Owners indicate approval of the project as proposed; and

WHEREAS the project is, or will be for the benefit of the Owners and others;

NOW THEREFORE THE PARTIES AGREE AS FOLLOWS:

1. This Agreement shall be in effect for a period of 5 years, commencing with the date of this Agreement.
2. The Owners and DMM agree that the areas where the work is to be performed is as described in Schedule A.
3. The Owners agree to pick up their Natural Edge Starter Kit from DMM's office and plant their shoreline within two days of receipt. The Owners will provide "after" photos of the work completed to be used for reporting purposes. If the Owners wish to have the planting completed for them, then DMM or its contractors, employees and agents will complete the planting at cost, as indicated in Schedule B.
4. If the planting is to be completed by DMM, then the Owners grant DMM, its contractors, employees and agents, the right to enter the property to perform the work agreed upon as outlined in Schedule A. In addition, DMM, its contractors, employees and agents may inspect the work performed for the purposes of monitoring the project and survival assessment, with prior agreement with Owners for date and time of inspection.
5. The Owners agree to contribute the "Landowner contribution" and pay the costs indicated in Schedule B.
6. In instances where the Owners are to pay DMM for work to be performed (outlined in Schedule A), the Owners agree to provide payments to DMM prior to the commencement of that operation. Failure of payment shall constitute a breach of this Agreement and the Owners agree that this Agreement will be terminated and thereupon the Owners agree to pay DMM the estimated costs of the operations of the project completed to date, if any.
7. The Owners agree, if necessary, to perform a reasonable amount of maintenance, which is described in the Native Plant Care Guide, available at naturaledge.watersheds.ca.
8. If a contractor is required to perform the work outlined in Schedule A, then the contractor carrying out the work on the land described will be required to take out and furnish evidence of a comprehensive policy of public liability and property damage coverage. The contractor and their workers will be required to be in good standing with the Workplace Safety and Insurance Board (WSIB) prior to performing the work.
9. The Owners agree not to remove, destroy or alter the project without prior consultation and approval of DMM. Pruning and trimming planted nursery stock, or adding replacement native nursery stock is exempt.
10. The Owners agree not to mow the planted area.
11. The Owners do acknowledge that DMM, its contractors, employees and agents, having performed said works, are not under further obligation with respect to survival of nursery stock, inspection, or maintenance.
12. The Owners, in the absence of negligence, hereby remise, release and forever discharge DMM, its contractors, employees and agents from all claims and demands for injuries, including death, loss, damages and costs in any way related to or connected with installation and maintenance of the work described or resulting from any deleterious effects of the work to the land or to the lands and buildings thereon retained by the Owners.

IN WITNESS WHEREOF the parties have agreed to the contents of this plan; SIGNED:

The District Municipality of Muskoka

Wanda Warrick

Representative Signature:

Owner Signature:





About this program

About The District Municipality of Muskoka

The District of Muskoka is an upper-tier municipality that has monitored water quality in Muskoka area lakes since 1980. Since 2002, the Muskoka Water Strategy has provided integrated and strategic initiatives for the protection of Muskoka's water resources. The purpose of the strategy is to guide and minimize the impact of human activities on water resources; ensure human and environmental health; and preserve the quality of life in Muskoka.

This program was created by Watersheds Canada

We believe that every person has the right to access clean and healthy lakes and rivers in Canada. At Watersheds Canada, we work to keep these precious places naturally clean and healthy for people and wildlife to continue using for years to come. We love working with others to meet the needs of local communities, whether you're a concerned citizen, a landowner, a lake association looking for help, or a coalition of groups interested in activating your local community.