

## **Draft Stewardship Plan for the Roxborough Greenbelt March, 2010**

### **1.1 Introduction**

The Roxborough Greenbelt is approximately three hectares of greenspace adjoining Junction Creek near downtown. In addition to its natural value, it is highly valued by residents for passive recreation. Originally slated for development, this land became public greenspace March 30, 2009 through an agreement between the City of Greater Sudbury and the property owner Dalron Construction Ltd., after a three year community effort led by Friends of the Roxborough Greenbelt, including a \$50,000 community contribution towards the acquisition.

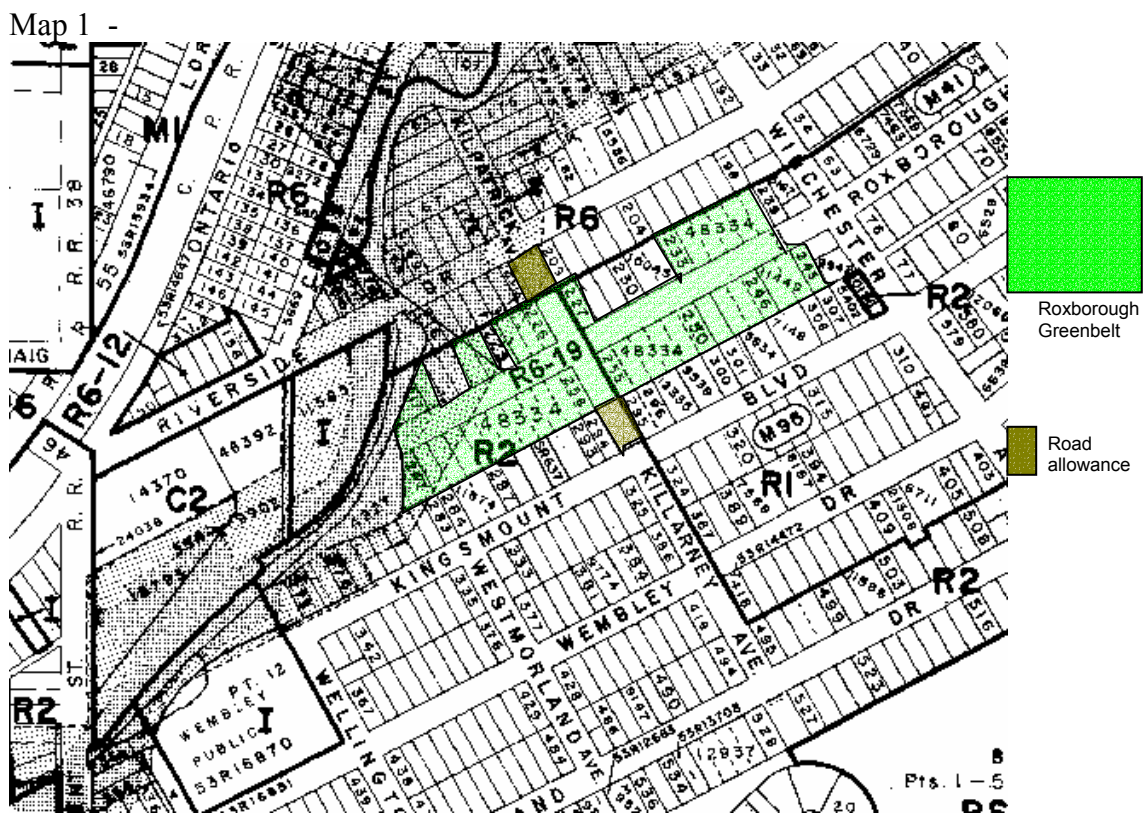
### **1.2 Status**

The Roxborough Greenbelt is owned by the City, under management of Leisure Services as public green space. It is classified as a natural park under the classification system proposed by the Green Space Advisory Panel. The primary purpose of a Natural Park is the protection of a natural area while meeting residents' needs for passive recreation. Currently zoned as 'R' (residential), it is expected to be zoned 'P' (park) when the new zoning by-law comes into effect (summer 2010).

As with any public park, all legal responsibility and liability lies with the City. A letter of understanding from Leisure Services recognizes the role of Friends of the Roxborough Greenbelt in continued stewardship of the greenbelt, as well as representing the neighbourhood's interests for this natural park. Money raised for stewardship is held in trust by the City, tax receipts can be given for donations, and letters of support can be obtained for grant applications for specific projects. All projects must be approved by Leisure Services. The same rules apply as in any park or public open space.

## **2. Boundary**

The Roxborough Greenbelt is approximately 3 hectares bordered by Kingsmount Blvd. and Riverside Dr., and running from Winchester Dr. to Junction Creek (see map 1).



### 3.1 Vision

Our vision is to preserve the natural value of the Roxborough Greenbelt for its own intrinsic value and for the enjoyment of present and future generations. We aim to do so with minimal intervention, respecting the natural environment and the attachment of residents to this special area.

### 3.2 Permitted Uses

The Roxborough Greenbelt is a Natural Park. Its primary purpose is the protection of the natural area while meeting residents' needs for low intensity passive recreation. Current passive recreational uses include walking, running, nature walks, bird watching, nature photography and painting, play, biking, snow-shoeing, and sledding, and small neighbourhood events.

As much as possible, passive recreation should not exert pressure on the greenbelt. As with any natural area, a good policy is "leave only footprints, take only pictures". The following actions will assist with this:

- large groups and regular walks should remain on the trail
- cyclists should walk their bike over muddy areas, to avoid forming deep ruts
- deadfall should be left
- care should be taken to avoid damaging or removing vegetation and soil

In addition, the same rules apply as in any park or public open space: e.g. motorized vehicles, fires, additional structures, dumping, littering and leaving dog waste are not permitted.

#### 4. Site objectives

There are three primary site objectives. In order of priority these are: protection of the natural environment, recreation, and education. See Table 1 for a summary of values (features/attributes that are valued), pressures (threats to these values), actions (to remove pressures), and implementation/monitoring (over time).

#### 4.1 Natural environment

The Roxborough Greenbelt is a primary successional forest. There is soil development and undergrowth. Many wildlife live in and use this habitat. See Appendix I for a list of animal species observed in the greenbelt.

##### 4.1.1 Vegetation

The Roxborough Greenbelt is a primary successional forest. Birch, poplar and maple characterize the east end, and poplar, alder and willow on the west end. Upper areas have a lower diversity of species with grass species dominating undergrowth, while lower areas and shore areas show higher diversity of tree and undergrowth species, and healthier vegetation. Retrogressive die-back of birch trees was observed, mostly in upper areas, indicating stress from metals in the soil and/or acidity (1,2). This is generally the case within Sudbury.

See Appendix II for a list of plant species observed in the greenbelt.

Map 2 – *add map of vegetation areas*

##### 4.1.2 Soil

Soil pH was acidic in the upper areas, where soil was also less developed. Soil acidity was surprisingly good in the lower areas and along the creek, where more biodiversity and greater soil development was also observed (1,2).

Table of soil profiles and pH, taken from reference (1), Courtney Rousselle, Casandra DeForge and Hannah Burke. 2009. pg. 9.

Location	Name	LFH (depth of uppermost layer of organic soil)	pH
Junction Creek Bank	Brunisol	Thin (0.5 to 4cm)	6.44
Lowland Willow	Brunisol	4cm	6.61
Floodplain	Organic gleysol	N/A	7.40
Lowland Birch	Poorly developed podsols	4 to 6cm	5.08
Upland Birch	Developing podsols	2 samples: 1 cm 6cm – moss covered	4.67*
Maple (entrance)	Podsols	Thin (1 to 3cm)	4.89*

\* May benefit from liming.

Map 3 – *add map of soil types and pH*

### 4.1.3 Rockland

Map 4 – *this still needs to be mapped*

### 4.1.4 Drainage

Map 5 – *this still needs to be mapped*

## 4.2 Recreation and trails

The Roxborough Greenbelt has a long history of use by residents for passive recreation. Approximately 400m of well established trails run through the greenbelt, and are well used year round. Entrance points are (1) at the west end of Roxborough Drive, (2) the Killarney road allowance (off Kingsmount), and (4) the Kilpatrick road allowance (off Riverside). The trail (3) also extends along Junction Creek to the Trans Canada Trail at the pedestrian bridge at the west end of Kingsmount (near the armoury).

Trails are narrow and informal, matching the scale and natural character of the park. Residents value the character of the trails, which will be left as is. Portions of the trail that become problem areas will be dealt with in the least intrusive manner possible. Site-specific recommendations were provided by Doug Innes (Ontario Parks), who may offer further guidance and technical expertise if needed.

Map 6



## 4.3 Education

Having a natural area in which children can play, explore and learn has an intrinsic educational value. The Roxborough Greenbelt has also been the site of many organized educational activities for students from kindergarten to college level, for scout or girl guide groups, and for neighbourhood events. Educational activities have included nature walks, scavenger hunts, temporary educational signage, plant surveys, clean-ups, and snow-shoeing.

Friends of the Roxborough Greenbelt will not regularly offer organized educational activities. However, outreach may be done to involve students and youth in stewardship activities. In addition, any educational material or additional information developed will

be made available on-line, and potentially at the public library, so that educators can access and use the material for outdoor education.

**Table 1: Summary of stewardship values, pressures and actions**

<i>Value</i>	<i>Pressure</i>	<i>Actions</i>	<i>Implementation /monitoring (future)</i>
<b>Limits/ Boundaries (Map 1)</b>	<p>Dumping of yard waste and other waste</p> <p>Opportunity to extend green space: Killarney and Kilpatrick road allowance; privately owned lots backing onto Riverside lots; south side of Junction Creek to pedestrian bridge (City owned).</p>	<p>Clean-up Education Monitor By-law enforcement as last resort</p> <p>Naturalize road allowances (if City agrees). Approach residents with privately owned lots to explore possibility of adding lots to greenbelt if/when they sell. Support addition of adjacent City-owned bank of Junction Creek to greenbelt or to Junction Creek Waterway Park .</p>	<p>Clean-ups have removed most of the historic dumping at the Killarney road allowance, and behind the old real estate sign at the end of Roxborough Drive. There are still some larger items to remove in these areas.</p>
<b>Signage/ Structures</b>	<p>Entrance signage should be small and unobtrusive, and match the natural character of the location. It should not call attention from the road. Generally, there should be no trail markers or signage within the greenbelt.</p> <p>No structures within greenbelt</p>	<p>Plan and put in place appropriate entrance signage</p>	
<b>Natural Assets Reference maps -Woodland/ Vegetation</b>	<p>Small amount of garbage/ dog waste</p> <p>Invasive species (Purple Jewelweed)</p> <p>Other?</p>	<p>Regular clean-ups of waste Garbage/recycling receptacles at entrances Bags for dog waste at entrances</p> <p>Removal where warranted</p> <p>Gather more complete information (e.g. survey of plant and tree species; survey of invasive species)</p>	

<p><b>-Rockland</b></p> <p><b>-Seasonal drainage</b></p> <p><b>-Junction Creek/ Shoreline</b></p> <p><b>-Wildlife</b></p>	<p>Graffiti</p> <p>Walking/biking/trails</p> <p>Bank Erosion</p> <p>Loss of willows along bank</p> <p>Garbage in creek</p>	<p>Plantings may be considered where it would improve ecological health (e.g. to stabilize creek bank)</p> <p>Remove graffiti</p> <p>Gather and map rockland information</p> <p>Allow flow through</p> <p>Work with JCSC to address erosion, restore tree/shrub cover, ensure clean-up, and remove invasive species – in greenbelt and in adjacent City owned land</p> <p>Gather more complete information</p>	
<p><b>Recreation</b></p>			
<p><b>Access</b></p> <p>Entrances should be kept natural and low-key</p> <p>- access points to trails and greenbelt:</p> <ol style="list-style-type: none"> <li>1. west end of Roxborough Drive (E),</li> <li>2. Killarney road allowance off Kingsmount (S),</li> <li>3. Kilpatrick road allowance off Riverside (N),</li> <li>4. from an informal trail from the pedestrian bridge near the armoury (W)</li> </ol>	<p>Snowplowing blocks easy access to trail head at the end of Roxborough</p> <p>Road sand accumulates at Roxborough entrance, from plowing</p> <p>Erosion along creek bank threatens trail to pedestrian bridge (in adjacent CGS land)</p> <p>Sale of road allowance(s) for residential lots?</p> <p>Motorized access</p>	<p>Ask City to resolve</p> <p>Shovel entrance</p> <p>Ask City to do yearly clean-up of sand, in spring</p> <p>Work with Junction Creek Stewardship Committee (JCSC) to address erosion</p> <p>Low risk. Road allowance cannot be formally closed until all Roxborough lots are part of greenbelt</p> <p>Block motorized access at entrance points</p>	<p>Has improved this year</p> <p>This continues to be done by B. Reid</p>
<p><b>Trails/ sledding run</b></p> <p>Trails are narrow and informal. This is valued as being part of the natural</p>	<p>Erosion</p>	<p>Allow water flow without eroding trails – select best option consistent with character and surroundings</p>	

character of the greenbelt.	Wet areas  Ruts from biking during muddy conditions  Any future problems with trail conditions	Apply mulch  Education  If any issues related to trail safety or condition become a problem, the solution should be as low impact and low profile as possible	
<b>Recreational and Community value</b> As well as the recreational value to individuals, events in the greenbelt have had community value to the neighbourhood. These include Easter Egg hunts and scavenger hunts, potlucks, and walk-a-thons.	Ensure balance so that events do not become a pressure on the natural environment.	Continue annual event(s) that have become a neighbourhood tradition (e.g. Easter Egg Hunt), and incorporate community in other events (e.g. a potluck or tea with a clean-up; a community building aspect to any fundraisers needed; stargazing).	
<b>Educational Value</b> Educational activities have been held in the greenbelt for students in kindergarden to college level, and during neighbourhood events	Ensure balance so that events do not become a pressure on the natural environment.	Stewardship activities and surveys done in partnership with students and youth groups will have educational value. Educational material will be made available on-line.	

## 5. Neighbouring lands

To the west of the greenbelt, City owned land along Junction Creek connects the greenbelt to the Junction Creek Waterway Park and the Trans Canada Trail (see map 7). This land should ideally become recognized as green space. The southern creek bank in this section is severely eroded and requires remediation. Junction Creek Stewardship Committee is hoping to facilitate a solution.

Several Riverside homeowners own double lots backing into the greenbelt (see map 1). These properties should be brought into the greenbelt if and when these property owners are interested in selling.

The Killarney and Kilpatrick road allowances adjoin the greenbelt. The preference for these road allowances is for naturalization, and to maintain them as entrance points.

There is a small easement that provides access to City vehicles to maintain a storm sewer and drainage, at the east end of the greenbelt, south of Roxborough.

Map 7 – City-owned land along Junction Creek, adjacent to Roxborough Greenbelt (marked in red; Junction Creek marked in blue; Junction Creek Waterway Park marked in light green)



Map 8 – add map of pressures along borders, monitoring clean-up of historic yard waste dumping at the rear of yards adjacent to green belt, and any new dumping.

### References:

- (1) Courtney Rousselle, Casandra DeForge and Hannah Burke. 2009. Restoration of Roxborough Greenbelt. Prepared for Dr. Peter Beckett's BIOL 3376 Restoration Ecology course.
- (2) Hillary Heard, Michael Shebeski, and Darlene Drayton-Skinner. 2009. Roxborough Greenbelt Restoration Plan. Dr. Peter Beckett's BIOL 3376 Restoration Ecology course.

### Other resources and partnerships:

- Will Kershaw shares his expertise as a provincial parks planner and his personal knowledge of the greenbelt.
- Doug Innes (Ontario Parks) shares his expertise on trail design and maintenance.
- Peter Beckett has offered to share his expertise on questions of stewardship and reclamation.
- Becky Thomas has offered to carry out seasonal plant surveys.
- The LoEllen Park Secondary School Green Team have offered their help with plantings, clean-ups, etc. The Laurentian University Sustainable Earth Club have also regularly helped with clean-ups and events.
- The Junction Creek Stewardship Committee will provide advice on removing the invasive species, Purple Jewelweed. They will also provide supplies to do additional

creek clean-ups, if needed (this section of creek is adopted by Hydro). They will partner with us on creek banks plantings and addressing creek bank erosion within the greenbelt, and in the adjacent city-owned land (included in their new five-year plan). *The area near the pedestrian bridge will require quite a bit of work to stabilize the bank - getting access for this work will require working with the city and the conservation authority, and JCSC plans to initiate a meeting accordingly. It will also require working with the residents at 288 Kingsmount, whose backyard is encroaching up to the creek. We hope to approach them personally when we are bringing round the draft stewardship plan.*

-Dan Ranich (Northern Trees) has offered to donate native evergreens for plantings, if needed. Other offers of donations of seedlings have also been received.

-\$1012.62 remains from fundraising efforts.

**Appendix I: List of animal species observed**

*No surveys have been carried out. The species listed have been observed by residents using the trails.*

**Bird species**

Bird species that are regularly seen in this area include the mourning doves, blue jays, crows, ravens, black-capped chickadees, american robins, starlings, sparrow species (most prominently the white-throated sparrow), white-breasted nuthatches, dark-eyed juncos, and grackles.

Other regulars include birds near the water such as mallards, belted kingfishers, and eastern kingbirds; woodpeckers such as northern flickers, hairy woodpeckers, downy woodpeckers, and pileated woodpeckers; and predators such as falcons (a pair of american kestrels have bred nearby for several years and regularly hunt in this area), and owls (evidence of winter hunting by owls has been seen). Other birds that have been seen intermittently are: great blue herons, bitterns, whip-poorwills, gray catbirds, and brown thrashers. Birds both nest (including cavity nesters in the cavities made available by woodpeckers) and feed there.

Migratory species pass through to feed. Some of the species noticed include: cedar waxwings, american redstarts, american goldfinches, common redpoll, viroes, flycatchers, and warblers (tennessee, black-throated blue, blackburnian, mangolia, yellow-rumped, yellow, wilson's).

**Mammal species**

Hares, mice, meadow voles, chipmunks, squirrels, least weasels, raccoons, porcupines, beavers, muskrats have been observed.

**Other species**

Snapping turtles, Garter snakes, frog species, and minnow species have been observed.

**Appendix II: List of plant species observed**

*(Recorded in references 1 & 2, in a plant survey carried out by Eco World Youth, and personal observations by N. Grant. These are not a complete inventory, and there may be some errors)*

**Trees**

Acer negundo	Manitoba maple
Acer rubrum	Red maple
Acer sacharinum	Silver maple
Acer saccharum	Sugar maple
Amelanchier arborea	Downy Serviceberry
Abies balsamea	Balsam fir
Betula alleghaniensis	Yellow Birch
Betula papyrifera	Paper Birch/White Birch
Picea glauca	White Spruce
Pinus strobus	Eastern white pine
Populus balsamifera	Balsam poplar
Populus deltoides	Eastern Cottonwood
Populus grandidentata	Large-tooth aspen/ Bigtooth aspen
Populus tremuloides	Quaking Aspen/ Trembling aspen
Salix	willow (likely a hybrid of Crack willow <i>S. fragilis</i> )
Sambucus canadensis	American elder
Sorbus americana	American Mountain Ash
Sorbus aucuparia	European Mountain Ash
Quercus rubra	Red Oak

**Shrubs**

Alnus incana	Speckled alder
Corylus cornuta	Beaked hazel
Diervilla lonicera	Bush honeysuckle
Kalmia angustifolia	Sheep-Laurel
Ledum groenlandicum	Labrador tea
Vaccinium angustifolium	Low sweet blueberry
Vaccinium carymoosum	High-brush blueberry

**Herbaceous plants**

Achillea millefolium	Pearly everlasting
Agrostis alba	Redtop
Anaphalis margaritacea	Pearly everlasting
Agrostis gigantea	Redtop
Apocynum androsaemifolium	Spreading dogbane
Aralia hispida	Bristly sasparilla
Aralia nudicaulis	Wild sasparilla
Aster divaricatus	White wood aster
Aster lateriflorus	Calico aster
Aster macrophyllous	Large leafed aster
Cinna latifolia	rooping woodreed
Clintonia borealis	Blue bead lily

<i>Cornus canadensis</i>	Bunchberry
<i>Epilobium angustifolium</i>	Fireweed
<i>Equisetum pratense</i>	Meadow horsetail
<i>Gaultheria procumbens</i>	Wintergreen
<i>Hieracium aurantiacum</i>	Orange hawkweed
<i>Impatiens capensis</i>	Spotted Touch-me-not
<i>Impatiens glandulifera</i>	Purple Jewelweed
<i>Maianthemum canadense</i>	Canada Mayflower
<i>Polygonatum byflorum</i>	Smooth solomon seal
<i>Petasites frigidus</i>	Sweet coltsfoot
<i>Solidago canadensis</i>	Canada goldenrod
<i>Solidago rugosa</i>	Rough-stemmed goldenrod
<i>Salidago uliginosa</i>	Bog goldenrod
<i>Taraxacum officinale</i>	Dandelion
<i>Trifolium repens</i>	White clover
<i>Trifolium pratense</i>	Red clover
<i>Typha latifolia</i>	Cat-tail
<i>Viburnum dentatum</i>	Arrowwood
<i>Vicia cracca</i>	Cow vetch
<i>Parthenocissus quinquefolia</i>	Virginia Creeper

### **Ferns**

<i>Athyrium filix-femina</i>	Lady fern
<i>Onoclea sensibilis</i>	Sensitive Fern
<i>Osmunda claytonia</i>	Interrupted fern
<i>Pteridium aquilinum</i>	Bracken fern
<i>Lycopodium annotinum</i>	Interrupted club moss
<i>Polypodium virginium</i>	Common polypody

### **Moss**

<i>Climacium dendroides</i>	Tree moss
<i>Dicranum montanum</i>	Lawn moss
<i>Dicranum scoparium</i>	
<i>Polytrichum commune</i>	Common hair moss
<i>Leucobrium</i> sp.	
<i>Thuidium delicatulum</i>	Common fern moss

### **Lichen**

<i>Cladonia chlorophaea</i>	False pixie cup
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### **Fungi**

Agaricales sp.	
<i>Amanita muscaria</i>	
<i>Armillaria</i> sp.	
<i>Bisporella citrine</i>	
<i>Boletus</i> sp.	
<i>Cantharellula umbonata</i>	

Clitocybe sp.  
Cortinarius sp.  
Crepidotus sp.  
Exidia glandulosa  
Fomes rosea  
Lactarius affinis  
Lycogala epidendrum  
Lycoperdon perlatum  
Mycena subcaerulea  
Piptoporus betulinus  
Russula albidula  
Russula sp.  
Sceleroderma sp.  
Trichaptum biforme  
Trichaptum sp.  
Tyromyces sp.

## **Action Plan:**

### **Stewardship Plan**

Complete a stewardship plan to guide the stewardship and use of the greenbelt for the long term, with input from members and residents, for use by Friends of the Roxborough Greenbelt and Leisure Services.

### **Entrance signage**

Plan and install appropriate entrance signage at Roxborough, Killarney and Kilpatrick entrances. Block motorized access. *The option of a lettered stone and messages on wooden posts blocking motorized access was discussed favourably by the group.*

### **Cleanliness**

Hold yearly clean-ups with a set date. Install small trash receptacle at Roxborough and Killarney entrances, and provide bags for dog waste. Continue education on dumping yard waste and monitor progress.

### **Trails**

Add mulch to those few areas where puddles often occur on the trail, remove tripping hazards where/if needed; add stepping stones where water flows through the bottom of the gully (or some other non-intrusive solution that allows water to flow freely, and gives dry passage for walkers).

### **Creek bank erosion**

Collaborate with Junction Creek Stewardship Committee on creek bank plantings, installing willow fascines to stabilize slumped bank, and to find and implement a solution for the serious erosion problem near the pedestrian foot bridge.

### **Stewardship of natural assets**

Remove Purple Jewelweed (near creek at west end of greenbelt), with guidance of Junction Creek Stewardship Committee. Fall liming of upper areas, with guidance from Dr. Peter Beckett. Complete mapping, and more accurate species surveys.

### **Possible additions to green space**

Support bringing in the adjacent CGS property along Junction creek into the parks system. Explore securing remaining privately owned Roxborough lots indenting greenbelt if/when owners would consider selling. Naturalize Killarney and Kilpatrick road allowances. Native evergreen trees and native shrubs would provide a seed bank for natural succession in the greenbelt.

### **Community**

Hold an annual community event (such as the on-going annual Easter Egg Hunt) and incorporate community building in annual clean-ups, stewardship activities, fundraisers, or other events. Provide information to new residents. Circulate a yearly neighbourhood newsletter prior to the yearly clean-up. Post event notices on telephone poles. Continue regular e-mail updates to members and all those on e-mail list.

## **Priorities:**

The top two priorities are:

- 1. Keeping the greenbelt clean** (of garbage)
- 2. Restoring the creek bank**

Other priorities identified are:

- planting/naturalization of road allowances
- small manageable stewardship projects such as: liming, tidying entrances, removing tripping hazards from trails, adding mulch/fill to 'puddle' areas on trails
- community ownership and involvement

## **Proposed timeline:**

By Summer 2010:

- Complete stewardship plan
- Install garbage cans at entrances, and start yearly clean-up of road sand at west end of Roxborough Drive (city)
- Provide bags for dog waste
- Tidy entrances, install appropriate entrance signage, and block motorized access
- Establish annual clean-ups with known dates
- Maintain community involvement
- Begin planning creek bank remediation

By Summer 2011:

- Establish annual stewardship activities, with small manageable projects prioritized by the group, and with additional advice as needed (e.g. removal of Purple Jewelweed; removal of tripping hazards on trail; complete plant species survey; map rockland features and drainage; smaller creek bank restoration projects – plantings, willow fascines). Partnerships with school and youth groups are a good match for these type of projects.
- Educational material and other information available on-line
- Start creek bank remediation

Five year plan:

- Complete creek bank restoration with the lead of the Junction Creek Stewardship Committee
- Naturalization of road allowances