



**Lake Wilcox Sustainable Neighbourhood Retrofit Action Plan (SNAP)**

**Performance Monitoring  
Interim Report**

**2015**



# Lake Wilcox SNAP Performance Monitoring Interim Report

1.0 Overview of Lake Wilcox SNAP Action Plan	
1.1 Setting, issues and key SNAP actions.....	3
1.2 Objectives, targets and expected outcomes.....	4
1.3 Baseline Conditions.....	4
2.0 Performance Monitoring Objectives.....	5
3.0 Implementation Projects and Programs - Monitoring Methods and Results	
3.1 Front Yard Makeover.....	5
3.1.1 Introduction and Key Objectives.....	5
3.1.2 Stormwater Runoff and Rainwater Re-Use Monitoring.....	7
3.1.3 Homeowner Survey and Feedback.....	9
3.1.4 Photographic Survey of Neighbouring Streetscapes.....	10
3.1.5 Observations and Lessons Learned.....	11
3.2 Residential Eco-Landscape Program	
3.2.1 Introduction and Key Objectives.....	13
3.2.2 Program Events, Attendance and Uptake.....	14
3.2.3 Program Uptake and Outcomes.....	20
3.2.4 Observations and Lessons Learned.....	25
3.3 Residential Energy Program	
3.3.1 Introduction and Key Objectives.....	26
3.3.2 Program Uptake and Outcomes.....	26
3.3.3 Observations and Lessons Learned.....	27
3.4 Solar Pool Hot Water Heater Pilot Program	
3.4.1 Introduction and Key Objectives.....	29
3.4.2 Program Uptake.....	29
3.4.3 Observations and Lessons Learned.....	30
3.5 School Projects	
3.5.1 Bond Lake Public School Bioswale.....	30
4.0 Neighbourhood Scale Monitoring Methods and Results.....	30
5.0 Overall Evaluation of Monitoring Results and Comparison to Other Programs.....	31
6.0 Conclusions and Recommendations .....	33
APPENDICES	
A - Lake Wilcox SNAP – Summary of Baseline Conditions and Targets.....	34
B - Front Yard Makeover Homeowner Surveys.....	37
C - Environics Telephone Survey December 8 – 18, 2014	42
D - Eco-landscaping Elements Implemented as part of SNAP and Partner Programs.....	62

## 1.0 Overview of Lake Wilcox SNAP Action Plan

The Lake Wilcox SNAP Action Plan was developed in 2012 by TRCA, in cooperation with the Regional Municipality of York (York Region), Town of Richmond Hill, LEAF and Oak Ridges Friends of the Environment. The theme of this SNAP is “Embracing Nature in the Community” and the residential program forms a significant focus for implementation. Through the program offers and uptake, the goal is to keep Lake Wilcox and the local natural areas healthy, while also strengthening the unique sense of community among new and longtime residents. The SNAP focuses on actions which can be taken within the neighbourhood for the benefit of the receiving waters, adjacent forests and wetlands, and ultimately the broader global environment.

As one of a series of pilot SNAPs a key objective is to seek ways to increase participation in sustainability actions. Therefore monitoring implementation performance is an important component of the work. Although implementation has only been underway for two years, this Interim Report provides insights that can inform program directions and adaptations.

### 1.1 Setting, issues and key SNAP actions

#### *Setting*

The Lake Wilcox SNAP is located within the Town of Richmond Hill, York Region. The area is roughly bounded by Bloomington Road at the north, Old Colony Road at the south, Yonge Street on the west and Bayview Avenue on the east. The neighbourhood consists of approximately 3900 homes, of which about 3200 are relatively new (<10-15 years) and the remainder of varying ages dating back to the original cottage community of the 1940s. Whether long time residents or newcomers, many share a common appreciation for the natural setting and a strong interest in being part of the community.

#### *Issues*

Lake Wilcox is a unique local treasure – the largest kettle lake on the ecologically significant Oak Ridges Moraine. Located in the headwaters of the historic Humber River watershed, the community of Oak Ridges is surrounded by provincially significant wetlands and stands of forest, home to sensitive plant, bird, amphibian and fish species.

Ongoing residential development and growing numbers of visitors to the area stress its highly valued natural features. Elevated phosphorus levels in the Lake are an ongoing concern. Although the Town has been actively implementing actions in the public realm under the guidance of its Lake Wilcox Remediation Strategy (Gartner Lee Ltd., 1996), there is still more that private homeowners can do on their properties to reduce phosphorus loads to the Lake. The Town recognizes that now the main phosphorus load to the Lake is from internal release from the lake bottom sediments. However, continual efforts at source involving lot level actions to reduce phosphorus and other pollutants will be important to maintaining Lake water quality over the long term.

#### *Partner Objectives*

The SNAP identifies actions that will complement work by the Town under its *Lake Wilcox Remediation Strategy* and further objectives of the *Humber Watershed Plan*, York Region’s *Long Term Water Conservation Strategy* and *Emerald Ash Borer Management Plan*, ORFE’s *Oak Ridges on the Moraine: A guide to the natural environment and the community*, and various climate change strategies, among others. The partners are committed to taking a science-based

approach to monitoring and evaluation of the SNAP's performance at achieving its objectives and contributing to those of others.

### *Actions*

The Lake Wilcox SNAP focuses on *Embracing Nature in the Community* through the following main action areas: residential eco-landscaping, green renovations and energy and visitor stewardship. Particular to these areas, the following actions have been implemented in the first two years following the planning stage.

- Front Yard Makeovers
- Residential Eco-Landscaping Program
- Residential Energy Program
- Solar Pool Hot Water Heater Pilot Program
- School Projects

## **1.2 Objectives, targets and expected outcomes**

The long term goals of the SNAP Action Plan are to contribute to improved water quality within Lake Wilcox, enhance greater regional biodiversity associated with the larger natural heritage system of which the SNAP area is a part, and unite residents in a shared experience of neighbourhood. During implementation of the Plan, the SNAP also seeks to achieve an overarching goal of improved overall neighbourhood sustainability.

The SNAP has identified the following objectives and targeted outcomes:

- Expand the urban forest from 27% to 35% of the study area through residential eco-landscaping of a portion of all front and rear yards. In the short term, double tree cover in residential areas by eco-landscaping 55% of residential lots.
- Reduce stormwater runoff and improve water quality (40-50% phosphorus removal) through adoption of eco-landscaping on 46% of residential lots in priority areas – those not served by stormwater ponds and where soil and groundwater conditions are appropriate for stormwater infiltration.
- Conserve water by reducing outdoor tap water use through rain harvesting and replacement of water-intensive lawns and gardens with water efficient plantings.
- Strengthen a shared sense of place among new and longtime community residents.

## **1.3 Baseline Conditions**

Baseline conditions for neighbourhood features that form a focus for the Action Plan have been established as part of the Lake Wilcox SNAP studies and summarized in Appendix A.

Conditions and long term trends in the health of Lake Wilcox itself are tracked by the Oak Ridges Friends of the Environment through the Ministry of the Environment's Lake Partners Monitoring Program and by the Town of Richmond Hill. Results collected by the Town are reported as part of the Town's Lake Wilcox remediation studies. Update studies take place approximately every five years.

## **2.0 Performance Monitoring Objectives**

Monitoring has taken place at two different scales to address the following objectives:

### *Lot scale (2 year timeframe)*

1. Determine the tap water savings and stormwater runoff volume reduction attributable to stormwater collection and re-use at a Front Yard Makeover site.
2. Evaluate the homeowner experience resulting from the Front Yard Makeover eco-landscaping installations.

### *Neighbourhood scale (2-5 year timeframe)*

1. Determine the effectiveness of the Front Yard Makeover demonstrations in influencing the adoption of eco-landscaping by other nearby homeowners.
2. Track the number of homes within the Lake Wilcox SNAP neighbourhood which adopt eco-landscaping actions, including planting of trees, shrubs and plants in areas prescribed by the SNAP or installing stormwater management measures to retain or re-use stormwater on their property.
3. Determine the aggregated neighbourhood water use reductions.
4. Estimate the increase in urban forest cover and stormwater runoff reduction resulting from the adoption of eco-landscaping.
5. Evaluate the extent to which homeowner decisions were influenced by eco-landscaping program offers.
6. Establish a measure of “sense of community”, estimate trends in this measure over time and determine the extent to which SNAP may have contributed.

Importantly, gathering these observations and measuring outcomes to date will provide information and insight which will then help guide the focus and shape for future plans of action.

## **3.0 Implementation Projects and Programs - Monitoring Methods and Results**

### **3.1 Front Yard Makeover**

#### **3.1.1 Introduction and Key Objectives**

Two homeowners were selected from among nineteen interested applicants to be the recipients of an eco-landscaping demonstration on their property. The two Front Yard Makeover demonstration projects were installed in July-September 2012, at 95 Wheelwright Drive and 20 Wheatsheaf Street, Richmond Hill (see below for before and after pictures). These projects play an essential role in communicating the objectives of SNAP and profiling many of the key practices of residential eco-landscaping. Specifically, the makeovers show how eco-friendly design features can be integrated with a beautiful, low maintenance and contemporary landscape aesthetic. They were designed to be the first step in promoting a neighbourhood-wide eco-landscaping program.

The Front Yard Makeover project at 95 Wheelwright Drive incorporates the following eco-landscaping elements: roof leader discharge to a bioswale; discharge of another roof leader into a rain barrel with overflow directed to a dry river bed that leads to a soakaway; addition of permeable driveway/walkway; and other design elements for enjoyment of the young family, including a wooden bridge, stepping stones and a seating area.



95 Wheelwright Drive: Before



95 Wheelwright Drive: After

The eco-landscaping elements installed at 20 Wheatsheaf Street included: roof leader discharge to a soak away underlain with AquaBlox units; discharge of another roof leader into a rain barrel with overflow directed to a dry river bed leading to a rain garden; discharge of a third downspout onto a permeable driveway/walkway; and water efficient native plantings of trees, shrubs and plants.



20 Wheatsheaf Street: Before



20 Wheatsheaf Street: After

### **3.1.2 Stormwater Runoff and Rainwater Re-Use Monitoring**

The Front Yard Makeover project at 20 Wheatsheaf Street serves as the focus for lot level performance monitoring of eco-landscaping.

The TRCA's Sustainable Technology Evaluation Program (STEP) staff has lead the design, implementation, analysis and reporting of the lot level stormwater monitoring. Monitoring took place August to November 2012 and June to October 2013 and a final report of the findings was provided November 2014 (Sustainable Technologies Evaluation Program (STEP). 2014. Lake Wilcox Sustainable Neighbourhood Retrofit Action Plan (SNAP) – 20 Wheatsheaf Street Front Yard Makeover Stormwater Monitoring Final Report).

The design and features incorporated in this front yard makeover have water conserving measures and lot level stormwater management measures that reduce the amount of runoff. These features include a rain garden, sideyard soakaway, permeable pavement and a rain barrel which captures roof runoff for use in landscape irrigation to offset use of municipal water.

## *Summary of findings*

In reviewing the findings, it is important to note that during the monitoring period, there were several months when the total rainfall depth was much greater than the long-term averages for the area based on Environment Canada's 30 year climate normal values from the Buttonville Airport climate station (Environment Canada, 2014). For example, rainfall totals for the months of September and October 2012 were double the long-term average. As such, these features were tested under wetter than normal conditions and since drainage rates are slower when underlying soil is saturated, the average drainage rates reported should be considered conservative values. With normal rainfall events, drainage rates and runoff capture performance would be slightly higher.

### *Rain Garden*

The footprint of the rain garden is 5 m<sup>2</sup> and it receives water from a roof area of 63 m<sup>2</sup> and overflow from a 375 L capacity rain barrel. The objective of the rain garden was to fully capture the roof drainage in a 15 mm rainfall event, assuming both a 10% loss of rainfall due to evaporation and that the rain garden was fully drained at the onset of the storm. In this region, approximately 60% of average annual rainfall depth occurs as storm events 15 mm in depth or less. It was found that the rain garden was capable of fully capturing runoff from rain events up to 13.2 mm in depth on a consistent basis. During the majority of rainfall events of 13.4 mm depth or greater, the rain garden would fill to capacity and some overflow occurred; overflow occurred 27% of the total 114 rain events.

In result, the rain garden reduced roof runoff by a minimum of 19 m<sup>3</sup>, the equivalent to 19,000 L or approximately 120 bath tubs full of water. This is considered a conservative estimation since the rain garden would have also captured a portion of rain events greater than 13.2 mm in depth. The primary reason for not reaching the 15 mm target was that, with the wetter conditions, the garden was not fully drained at the onset of most storms events greater than 13.2 mm in depth. However, during the monitoring period the rain garden fully drained within 12 hours (well within the 24 hour guidelines recommended), which ensures the feature will not provide breeding habitat for mosquitoes.

Suggestions to improve runoff capture performance were to increase the surface ponding area and depth as well using and draining the rain barrel routinely during the dry periods.

### *Sideyard Soakaway*

The soakaway is situated between the driveway and the neighbour's driveway and has a 1.4 m<sup>2</sup> surface footprint. The total water storage capacity of the soakaway, which includes two Aquablox® D-Raintank® rainwater storage chambers, is approximately 0.67 m<sup>3</sup>. The roof area that drains to this is 130 m<sup>2</sup>. Like the rain garden, the soakaway was capable of fully capturing runoff from rain events up to 13.2 mm depth on a consistent basis. Overflow occurred during 25% of the total 114 rain events. As a result, the soakaway reduced roof runoff by a minimum of 40 m<sup>3</sup> the equivalent of 40,000 L or about 250 bath tubs full of water.

It was observed that the soakaway never fully drained and was at least half full of water at the onset of most storm events. This is because drainage rates decrease exponentially with reduced hydraulic head (depth of water) coupled with low permeability native soil. Suggestions to improve runoff capture performance were to increase the surface footprint or depth of excavation and the number of Aquablox® D-Raintank® rainwater storage chambers installed. Due to the drainage characteristics of this site, it was also suggested that, where possible, the



storage chambers be installed at a greater depth and one on top of the other rather than side-by-side (as installed here).

In conclusion, these lot-level storm water management features amounted to a total runoff reduction of 59,000 L or an equivalent of 340 bath tubs full of water. Even with the greater than average rainfall events during the monitoring period all features functioned without incident. These results can be extrapolated to the neighbourhood scale and used to estimate the expected cumulative benefits of eco-landscaping actions and progress toward SNAP targets.

#### *Rainwater Re-use*

A total of only 2.63 m<sup>3</sup> of rainwater was used over the monitoring period, indicating that the 377 litre (L) rain barrel was rarely drained between storm events (a total of only 7 times) and mainly used to occasionally fill watering cans. Assuming a water utility rate of \$2.9074 per m<sup>3</sup> (Town of Richmond Hill, 2014), this amounted to \$7.65 in water utility bill savings achieved over the monitoring period. In addition to this would be savings due to the absence of a lawn which was previously watered once per week for 20 minutes as indicated in a pre-makeover survey completed by the homeowner. It is noted that the wetter than average conditions, coupled with the purposeful design objective of water efficient plants, reduced the need for garden watering.

### **3.1.3 Homeowner Survey and Feedback**

Surveys were conducted with the front yard makeover homeowners to track experience relating to their enjoyment and use of the garden, maintenance practices and visitor feedback. The first survey was conducted in September 2012 immediately following installation of the makeovers and with reference to their pre-project landscapes. Homeowners completed a second feedback survey in November of 2014 after the second full gardening season. Their feedback in this survey was based on both the 2013 and 2014 seasons, and included comparisons to their pre-project practices. Copies of the completed surveys are contained in Appendix B.

Overall, the two homeowners' responses are very positive and similar, both indicating that they are 'very satisfied' with their front yard which they rated as 'beautiful'. Some of the highlights are as follows,

- Both used their front yard regularly, particularly with their children. They both agree that this front yard engaged their kids more than a lawn. Further to this, the neighbourhood children also came to play in it.
- Both communicated the response of neighbours with regards to the front yard was 'Very Positive'. A noted comment from a neighbour was 'Environmentally friendly garden yet artistic and multi-use'.
- Both noticed an increase in wildlife in their yard.
- Both watered, on average, once a week using only water from the rain barrel, no potable water was used. Neither design includes a lawn, thus both time and water were saved.
- From pre-installation surveys, both participants indicated spending up to 120 minutes (2 hours) a week maintaining their former front yards. With the new front yard, this was reduced to 45 minutes with the majority of time dedicated to weeding (30 or 40 minutes).
- Both would recommend this type of design to those wanting a low maintenance, but interesting landscape.
- Neither one encountered any new ponding or drainage issues and all elements functioned to their satisfaction; one participant did have to replace some plants due in part to the extreme winter events of 2013 and rabbit browsing.

- Both recognize and are 'very proud' of the environmental benefits their front yards provide; importantly, both indicated that their neighbours are also aware of these benefits.

The positive experience and feedback from these homeowners in relation to their front yard makeovers provides testimonial support for future eco-landscaping programs and can be used for further promotion and marketing.

### 3.1.4 Photographic Survey of Neighbouring Streetscapes

One objective of demonstrating eco-landscaping designs at actual homes within the neighbourhood was to increase attention and interest by other local homeowners, and potentially to influence their landscaping decisions. In order to establish a baseline and track change, York Region staff conducted a photographic survey of front yards at homes along selected streets in the vicinity of the two front yard makeover project sites. The streets included: Wheatsheaf Street, Maroon Drive, Balliol Avenue, Summer Street, Palmette Drive, Wheelwright Dr., and a few homes on Old Colony Road (Figure 1).



Figure 1

York Region staff took digital photographs of 220 homes surrounding the demonstration gardens in the summer of 2012 (baseline) and 2013 (year 1). These photos were reviewed in order to document the type of landscape and any changes that occurred over the course of this time. More details about methods and the findings are documented in a separate report *York*

*Region Sustainable Neighbourhood Retrofit Action Plan (SNAP) Landscape Change Review*, by Resource Management Strategies Inc., (Dec.4, 2013).

The Front Yard Makeover installation was completed in the fall of 2012. Expectations for change that may have been influenced by the FYM in the 2013 photo survey are largely premature because uptake would have required residents to observe and implement the landscape ideas demonstrated in one season (2013). As such, this review is not meant to be a definitive indication as to the effectiveness or influence this project had on neighbours and their uptake, but rather it should be considered a first observation in a longer term study (i.e. minimum 5 year observation period).

What is gained from this study is insight into the trends and changes that are taking place in the study area. These trends need to be acknowledged and taken into consideration in both the SNAP action plans and estimated outcomes moving forward; a shift in focus and actions may need to take place.

Highlight of trends observed that should be taken into consideration are:

- 1) In total, 65 homes had a visible change in landscaping from 2012-2013. Of these, 26 removed and replaced lawns with the following:
  - i. Replaced with parking: 10
  - ii. Replaced with garden and parking: 7
  - iii. Replaced with gardens: 9
- 2) The average relative percentage (in relation to the size of the front yard) of turf removed in 2013 was 37%. This consisted of the following:
  - i. Turf replaced with interlocking (walkways and parking): 22%.
  - ii. Turf replaced with annuals: 4%
  - iii. Turf replaced with perennials and shrubs: 11%
- 3) There was an increase in planted containers which tend to require more water thus affecting water conservation outcomes and metrics. If this trend continues it needs to be taken into consideration with future actions. Programs here could revolve around how to plant, design and maintain drought tolerate containers. Additionally, there is a probability that this increase could be positively correlated to the above trend: as people increase the amount of hardscaping, there may be a proportional increase in containers.

Of the garden trends and changes reported, there was no indication as to whether there was evidence of any eco-landscaping or other such features as demonstrated in the front yard makeovers.

### **3.1.5 Observations and Lessons Learned**

The Front Yard Makeover demonstrations have served to capture neighbourhood attention and garner homeowner interest in eco-landscaping, as indicated by response to the application process, homeowner feedback and as will be further described in the next section. The following key points arise from the evaluation of these projects:

- Effectiveness of eco-landscaping practices in stormwater runoff reduction has been quantified and can now be used to extrapolate to neighbourhood results.

- Raingardens and sideyard soakaways are very effective, and sideyard soakaways, in particular, may be worth more focused promotion.
  - Fit into an under-utilized space.
  - Could be coupled with grading and pavement cuts to capture runoff from driveways, and particularly if permeable pavement is not being used.
- Consistent with expectations, rainbarrels (even high volume ones) do not appear to be an effective practice in this neighbourhood.
  - Incompatible with promotion of native, water efficient plantings.
  - Homeowners have few needs for water re-use. Any promotion and marketing of rainbarrels should come with specific advices for what this water source can be used for: i.e. planted containers, newly planted perennial garden or vegetable garden.
- Both homeowners are extremely happy with their gardens, noting greater year round interest, more opportunities for viewing wildlife, fun for kids, less time required for weekly maintenance and less municipal water use as key benefits.
- Keeping up with general trends during the implementation of the SNAP action plans is a necessity in order to see opportunities or unforeseen outcomes and thus make changes in the plans where possible (i.e. increase in interlock driveway installations and planted containers).
- The photographic survey reported on trends that need to be considered for future programming.
  - Of the 26 homes that had removed and replaced lawns, 16 (62%) installed a garden alone or garden with parking space (38% replaced with parking alone). This demonstrates opportunity and lends support to further offer eco-landscaping programs in order to shape and influence these trends. Drought tolerant, stormwater friendly gardens should be promoted to offset the increase in hardscaping that is occurring. The timing of such programming is critical as this trend is well underway.
  - The relative percentage of turf removed that was hardscaped (22%) to that which was softscaped (15%) is another point that reinforces the above mentioned. Due to higher proportions being hardscaped, again it is important that the type of landscaping promoted compensates for this; designs that feature drought tolerant and stormwater friendly features as done with eco-landscaping programs.

The Front Yard Makeover demonstration is a bold and effective project. It is not simply a demonstration of a trend, but a showcasing to initiate a cultural shift. Such shifts do not happen over one season. Efforts to continue this movement should be a priority because of the environmental gains, and the suitable gains to these residents (beautiful, low maintenance yard). As stated by a SNAP resident who participated in the Eco-landscaping tour: '(this is a) *Great idea for young family to make their life easy and manageable*'. Particularly in the younger areas of this SNAP neighbourhood, continued observations and promotion should be a priority to encourage the positive momentum of influencing landscaping that has great form along with great function.

## 3.2 Residential Eco-Landscape Program

### 3.2.1 Introduction and Key Objectives

The Lake Wilcox SNAP's Residential Eco-Landscaping program promotes eco-friendly landscaping practices (i.e. native/water efficient plants, raingardens and other onsite rainwater management practices, phosphorus management). The program is also designed to be the gateway for promotion of other sustainability practices, including water and energy efficiency and community stewardship.

The key objectives of the program are to increase residential awareness and implementation of the following eco-landscaping elements:

- Plant native, water-efficient trees and shrubs plants
- Install and use high capacity rain barrels and rain harvesting practices
- Install rain gardens, soak aways, permeable paving (where conditions allow)
- Gain understanding of and follow phosphorus Best Management Practices (e.g., replacing chemical fertilizers with compost, properly disposing pet wastes, reducing use of car washing detergents, composting lawn and garden waste, avoiding soil erosion, reducing use of winter de-icers)

Uptake of these elements will lead to the overall goal of reducing outdoor potable water use, expand the urban forest and native biodiversity, and reduce phosphorus loading to Lake Wilcox.



The program was strategically designed to address local homeowners' interest in low maintenance landscaping that has curb appeal and can easily be obtained within their busy lifestyle. The following strategies shaped the program:

- **Branding** - slogan, *Beautiful, modern, easy to maintain gardens*, relates the program directly to target market interests and the Eco-landscape logo supports homeowner's secondary desire to make environmentally friendly choices.
- **Demonstration** - Professionally designed front yard makeovers demonstrated how eco-friendly designs can be compatible with contemporary landscape design, and also show how kid-friendly spaces can be created without a lawn.
- **Inspiration and making it easy** - A collection of six landscape design templates for Lake Wilcox homes provide inspiration and, as they are associated with available discounted plant kits, provide easy "garden in a box" options for homeowners.
- **Incentives and long term program delivery** – Exclusive discounts were negotiated with local landscape designers and suppliers of plants and garden materials, with the goal of providing incentives and a relationship with local business for long term program delivery.
- **Building on community spirit; lending help** – Volunteer planting days and community BBQs, took advantage of the strong sense of community and provided opportunities for homeowners to access help for their "do it yourself" projects.
- **Promotion of social norms; engaging kids** – Recognition signage helps promote the growing trend, and includes stickers designed by school kids that can be earned for actions undertaken under each of the four program themes,
- **Keeping it local; nurturing peer to peer dialogue** – Promotion through local community networks, coffee nights and garden tours help foster exchange of experience and awareness of the growing local trend.

### 3.2.2 Program Events, Attendance and Uptake

#### *Overview of Events and Programs*

In order to engage, educate and promote implementation of eco-landscaping actions, a number of events and programs have been offered. Table 1 summarizes the events and programs offered to-date as well as how they were advertised. The latter information is important to consider when reviewing participation.

**Table 1: Lake Wilcox SNAP Events and Programs 2011-2014**

	Year	Event/Program Offer: location and date	Advertisement:
Pre-Program	2011	Winter Hike and Homeowner Learning Centre, LWPS Gym (Jan 23)  Gardening seminar and recruitment for Front Yard Makeover Recipients, ORCC (June 29)	<ul style="list-style-type: none"> <li>• Post card sent home with Lake Wilcox Public School kids</li> <li>• Poster at No Frills</li> <li>• Flyer Letter (individually addressed, mailed in Town/TRCA/York envelope)</li> <li>• ORFE e-newsletter</li> </ul>
	2012	SNAP attended a York Region hosted seminar: Creating Beautiful Gardens with Native Plants Seminar (March 22)  Community BBQ and Front Yard Makeover tours, Tadpole Parkette (Sept 22)	<ul style="list-style-type: none"> <li>• SNAP attended to conduct a gardening survey; input from this went towards program design.</li> <li>• Flyers to households</li> <li>• ORFE e-newsletter</li> <li>• Poster sign at Tadpole parkette</li> <li>• Door to door canvassers; booth at</li> </ul>

		Backyard Tree Sale pilot program (Sept-Oct)	BBQ
Eco-Landscaping Program Years	2013 Spring	Spring Garden Talk with Celebrity gardeners Mark Cullen and Lorraine Johnson, ORCC (March 28)  Street Party Planting Event Grant including free soil, mulch, landscape design advice and volunteer assistance (April-June 2013)	<ul style="list-style-type: none"> <li>• Winter SNAPshot newsletter hand delivered to doors (late Feb)</li> <li>• ORFE e-newsletter</li> <li>• Posters*</li> </ul> <ul style="list-style-type: none"> <li>• Winter SNAPshot newsletter (Feb)</li> <li>• Announcement at Garden Talk (March 28) and sign up to be sent more info (sent late April/early May)</li> <li>• Notice to SNAP's e-contact list</li> <li>• Post card flyer delivered to door by Canada Post and hand delivered to Maroon/Wheatsheaf enclave</li> <li>• Booth at Oak Ridges Clean Up Day (Sat in late April); No Frills (Sat. in early May).</li> </ul>
	2013 Fall	Energy audit/solar PV program (Sept-Dec 2013)  Renovation Trends workshop for renovators, contractors and homeowners (Nov 2013)  Solar powered hot water heater for swimming pools pilot program (Dec 2013-Feb 2014)	<ul style="list-style-type: none"> <li>• Flyers to households</li> <li>• Posters*</li> <li>• Door to door canvassing of older homes to seek 20 candidates for free audit</li> </ul> <ul style="list-style-type: none"> <li>• Flyer – To Homeowners</li> <li>• Flyer - To Industry: through e-contact list of local contractors, trades, real estate agents and via BILD-Renomark members list (by BILD).</li> <li>• Posters*</li> </ul> <ul style="list-style-type: none"> <li>• Door to door canvassing to random sample of 25 homes determined to have pools from air photo analysis.</li> </ul>
	2014	Eco-landscaping workshop series (March-April)  Five Front Yard Landscape Design Grants awarded at workshops (March-April)  Exclusive discounts on design services and supplies (April-Oct)  Community volunteer gardening days (May-June)	<ul style="list-style-type: none"> <li>• Winter SNAPshot newsletter delivered by Canada Post (Feb)</li> <li>• Mobile road signs one week prior to each workshop (one on Bayview at Old Colony; one on Yonge at RBC)</li> <li>• Notice to SNAP e-contact list, website</li> <li>• Posters*</li> </ul> <ul style="list-style-type: none"> <li>• Winter SNAPshot newsletter</li> <li>• Announced at each workshop, website</li> </ul> <ul style="list-style-type: none"> <li>• Same as above</li> </ul> <ul style="list-style-type: none"> <li>• Same as above</li> </ul>

		Recognition yard signage designed by local school kids (May-Oct)	<ul style="list-style-type: none"> <li>• Hand delivered to previous SNAP program participants with relevant sticker(s)</li> <li>• Letter home to school kids' parents (June 28), with sign and stewardship sticker.</li> </ul>
		Garden tours and community celebration event (July)	<ul style="list-style-type: none"> <li>• Two weekly ads in Liberal newsletter the two weeks prior to event.</li> <li>• Mobile signs (2-see above) week prior to event</li> <li>• Posters*</li> <li>• Notice to SNAP e-contact list</li> <li>• ORFE e-newsletter</li> </ul>

\*Posters – posted at ORCC, Oak Ridges Public Library, No Frills, RBC, Gramma's Oven.

### *Event and Program Attendance*

Figures 2-4 provide a summary of the attendance and participation at the events and programs offered through SNAP. Numbers reflect households (as opposed to individuals) who registered at the events and not the actual total number of individuals who attended ('head-counts').

Figure 2 shows a higher concentration of participation from households in the vicinity of the Front Yard Makeovers. This is an indication of their effectiveness in community engagement and generating interest.



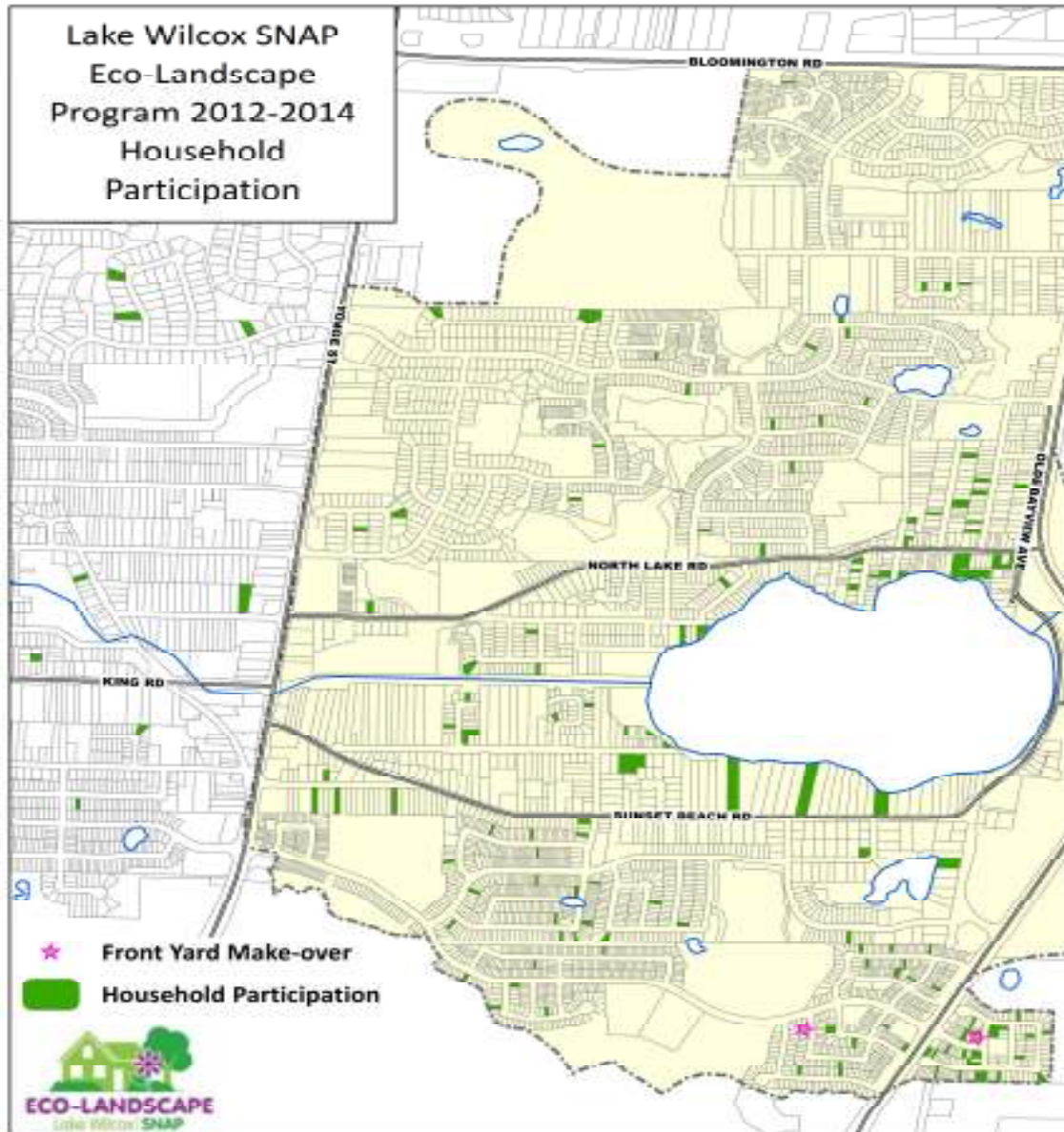


Figure 2

There are a few interesting observations to be made from Figures 3 and 4. One observation is that the representation of households located outside of the SNAP neighbourhood is significant: 84 or 27%. This likely reflects the broader reach of the Oak Ridges Friends of the Environment (ORFE), a local group whose mailing list subscribers come from throughout Oak Ridges and whose electronic contact list was used to promote Lake Wilcox SNAP activities. Furthermore, Yonge Street was arbitrarily used as the western SNAP area boundary to maintain a manageable sized area for this pilot study, but similar community characteristics exist beyond the boundary. The interest expressed by households, many of which are located west of Yonge Street, has led to the implementation of eco-landscape gardens, according to anecdotal reports. A full assessment of this broader program impact is beyond the scope of this monitoring report. This interest may also suggest an opportunity for broadening the promotion of the program in future to other similar communities, to achieve greater return on the investment made at the pilot scale.

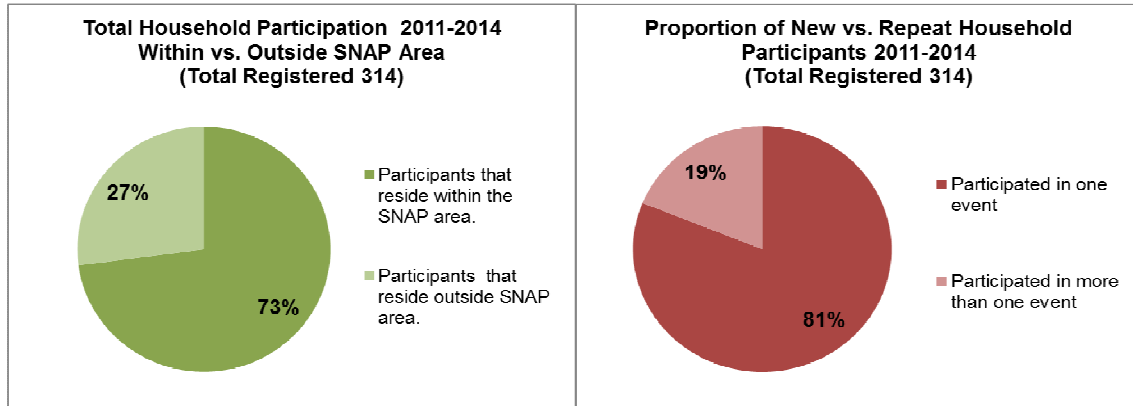


Figure 3

Figure 4

Another observation regarding the total number of households participating to date from within the SNAP study area (i.e. 226), is that this represents about 7% engagement of the total estimated 3200 households in the newer portions of the SNAP study area. This is similar to the level of engagement in other pilot SNAP neighbourhoods where locally tailored residential programs have also been implemented during 2012-2013.

When offering open 'public' programming, one interest is how many people are you reaching? Figure 4 shows that 59 of the 314 registered households (19%) are repeat attendees. This is a positive outcome indicating that while there is a core group of interested followers, overall participation is wide-reaching and attracting a growing number of households. Of the households who attended greater than one event, approximately nine attended greater than three events and one attended 11 events.

To gain further insight in order to determine where time and resources are best allocated, Figure 5 illustrates which events and programs engaged the greater number of households. Most all events drew more first-time attenders than repeat attenders. Some of these were simple events (i.e. workshops) in that they required little involvement other than attending, while others were programs (i.e. home energy audits) that required much more involvement. As such, these cannot be compared directly with each other. The SNAP community barbeque in 2012 brought out the largest number of households and is estimated to have also attracted the greatest number of residents (the actual head count was approximately 150 people). This was a family oriented event which attracted parents, kids and sometimes even grandparents. This event offered great exposure to the front yard makeovers that were toured during the event. The 'Spring Garden Talk' in 2013 which had expert 'celebrity' speakers (Mark Cullen, and Lorraine Johnson) brought out the second largest number of households and about 75-100 people. As an evening seminar, very few to no children were present, and fewer young couples. The third largest event was the eco-landscape tour in 2014, attracting 31 households, of which 13 are located within the study area. Although the promotional material identified kids' activities as part of the event, there were only a few families or single parents with a child in attendance. In conclusion, as noted earlier, there are a number of factors influencing participation at events, including weather, time of day, event design, method of advertising, amount of advance notice, timing in relation to other complementary activities etc. Event designs should continue to appeal to families and non-families.

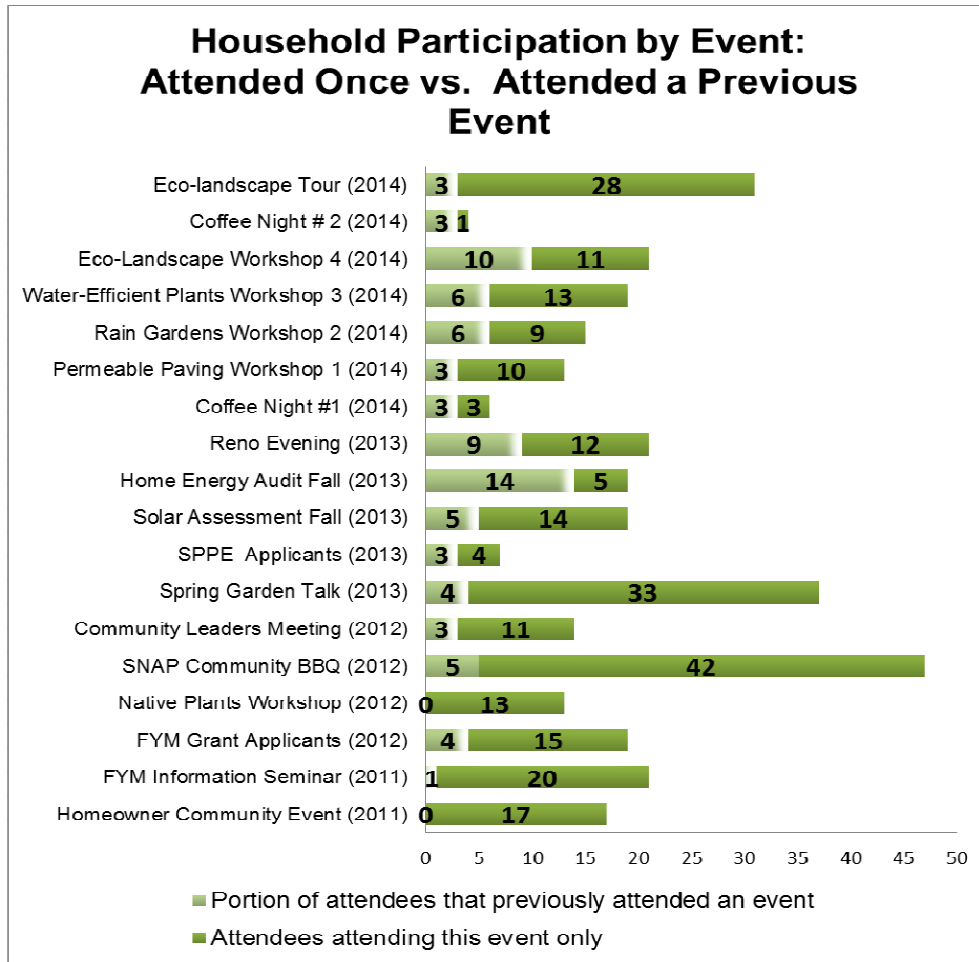


Figure: 5

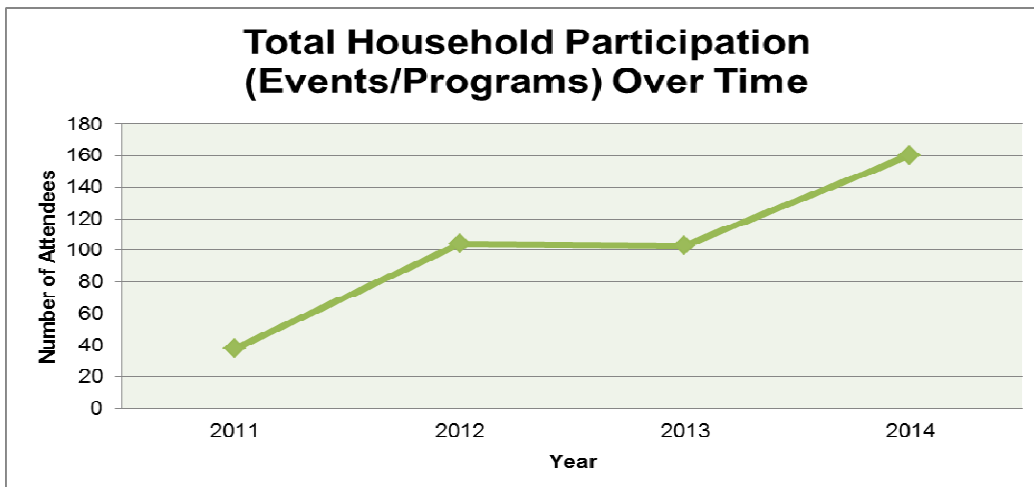


Figure: 6

From Figure 6 we can verify that over the course of the SNAP's implementation phase to-date, participation has increased since the program's launch. The increase in numbers from 2013-2014 can in large part be attributable to the greater number of events hosted by SNAP and

SNAP's increased participation at community events hosted by others (i.e. Oak Ridges Friends of the Environment Clean-up's, Promenade Park Grand Opening).

Relative to the effort involved in participation in more events during 2013-2014, there does not appear to have been a commensurate increase in household participation. This suggests that fewer strategically designed events are more effective. This observation may also be associated with the increased scale of program offers in recent years (i.e. higher cost, more effort involved in eco-landscape installations promoted in 2013-2014 vs. free or lower cost, simpler actions promoted in 2011-2012). The method of advertisements also changed in the latter years, from direct mail or door to door canvassing in 2011-2012 to general mail newsletters or post cards in 2013-2014. In future, consideration should be given to the selection of fewer, strategic events and directly addressed promotions.

### **3.2.3 Uptake and Outcomes**

#### *Program Uptake*

Table 2 summarizes the direct uptake of the SNAP eco-landscape programs and partner programs that were cross promoted. Figure 7 shows the location of households participating in all SNAP events and programs, denoting those who undertook specific known actions. As previously observed, participation occurred throughout the SNAP area, with a greater concentration in the vicinity of the front yard makeovers. Addresses of participants involved in partner programs could not be shared, due to confidentiality reasons, and therefore are not shown here.

It should be noted that other than the partner programs, most SNAP program offers were designed as incentive "attention getters", while the main thrust of the eco-landscaping program is for a "do-it-yourself" connection of homeowners to private retail sources and landscaping services. For this reason, uptake and outcomes are not entirely measureable through program records. In order to fill in this information gap, a telephone survey was conducted by Environics Research Group December 8 – 18, 2014 (see Appendix C). Survey results, estimated program outcomes and other program feedback are presented in the following sections.

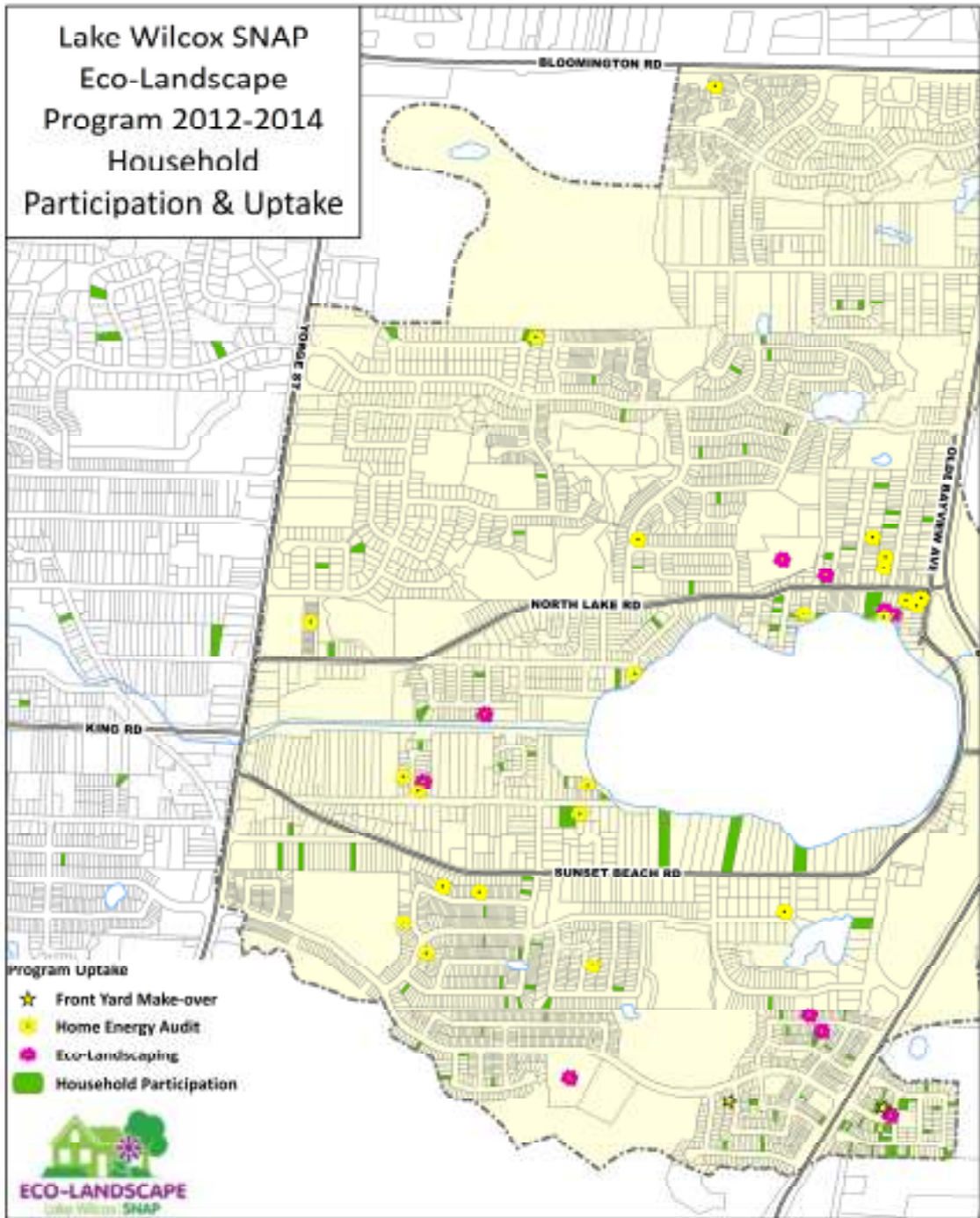


Figure 7

**Table 2: Uptake of SNAP Eco-Landscape and Related Partner Programs**

Name*	Program Summary	Interest	Uptake/General Outcomes
Front Yard Makeover Grant (2011)	Residents applied to be awarded a front yard makeover (2 available)	19 Applicants	2 Front yard makeovers awarded
Backyard Tree Sale (2012)	Door to door tree promotions to residents with the support and help of LEAF	37 Sign-ups	11 Consultations completed 16 trees planted 11 shrubs planted
Street Party Planting Event Grant (2013)	Grant including free soil, mulch, landscape design advice and volunteer assistance	7 Applicants	6 households were awarded; 5 eco-landscapes installed.
Front Yard Landscape Design Grants (2014)	A name was drawn at each workshop (2014) in order to win a personalized landscape design.	All those who attended the workshop and lived in the SNAP area were eligible to win.	5 design grants awarded
LEAF Programs (2013-2014)	Backyard Tree and Native Plant Kit Sales	See uptake column.	2013 – 17 2014 – 12
Town of Richmond Hill Program (2013-2014)	Healthy Yards Plant Kit Sales	See uptake column.	2013 – 18 2014 – 27

\*See Section 3.3 for Energy Program Uptake

Based on available records, 59% of those SNAP area households that engaged in some aspect of the program's events or offers (135 out of 228) and 3% of all households within the SNAP area have implemented at least one type of eco-landscaping action. Factors affecting these uptake results may include:

- 1) Weather
  - a) Wet seasons - During the implementation period of the eco-landscaping program (2013-2014), the growing seasons were wetter than normal (Sustainable Technologies Evaluation Program, 2014).
  - b) Ice storm damage - the winter of 2013 was particularly harsh with severe temperatures and an ice storm. As such, some people reported having to reallocate their budget to deal with the subsequent damage (plant/tree damage) and/or take measures to prepare themselves for future weather challenges. For instance, one homeowner communicated that they had reallocated their budget to install a generator in case of another power outage like the one experienced following the ice storm (comment is under 'Energy Program; Follow-up visits and Participant feedback' below).

- 2) Advertising - It has been observed that the method of advertising influences uptake. Generally, of all the various methods used (see Table 1) personalized direct mailings or door to door canvassing seem to be the most effective.
- 3) Timing and Notice - In 2013, although the program launch occurred in late March, the program details were advertised in late April leaving less time for homeowners to consider participation and meet application deadlines of complementary partner programs. Earlier notice and lead times were provided in 2014.
- 4) Lack of time and convenience, particularly for busy families – This characterization is consistent with the social marketing research conducted in preparing the action plan of this SNAP; the largest demographic being young, ‘on-the-go’ families and households. Much of the feedback from the residents is that they are interested in these eco-landscaping actions, but they lack time to plan and implement them. Anecdotal feedback at events and survey responses (from energy audit follow-ups) has supported this finding. A survey planned to be conducted by end of 2014 will also explore this observation.
- 5) Size and nature of program’s desired actions - Landscaping is an investment that needs to be worked into a family’s budget; this takes time and planning.

#### *Feedback from Landscape Design Partners*

The landscape design partners involved with the eco-landscaping programs were contacted at the end of the 2014 season (September – November) in order to get feedback on their experiences. The following is a summary of their comments:

- Many people do not have a realistic understanding of the true cost of landscaping, particularly installation; this proves to be a barrier to uptake. Some residents did not follow through on quotes given for further work, or follow through with implementation of provided designs.
- The term ‘eco’ does not seem to appeal to all people; marketing messaging needs to be cognitive of this finding.
- An observation was made that a more formal design with native plants rather than a ‘naturalized’ look, would provide a design alternative that may be more appealing and suitable to this demographic. A combination of native and ornamental plants is preferred. Low maintenance is another feature that must be promoted.
- It was suggested to provide more education on: how to remove grass and about rain gardens.
- It was estimated that about 70% of the properties encountered in this area have drainage issues and many of the landscape features promoted in the eco-landscape program could solve these problems.
- One designer gained additional work on the west side of Yonge St. with the design and installation of an eco-landscape garden.

## Program Outcomes

Table 3 provides a summary of the eco-landscaping elements known to have been implemented as part of SNAP or related partner programs (for details, see Appendix D).

**Table 3**

<b>Eco-landscape Elements Implemented as part of SNAP or Partner Program Incentives (*2012-2014)</b>	<b>Totals</b>
<b>Summary of known Residential Lot Participation</b>	
100% Front or Back Lawn Eco-landscaped	7
50% Front or Back Lawn Eco-landscaped	1
100% Front or Back Lawn Eco-landscape Projects Underway	3
<b>Summary of known Eco-landscape elements implemented</b>	
Rain Barrels Installed	5
Rain Garden Installed	3
Soak-Away installed	4
Aqua Blocks	2
Permeable Paving driveways or walkways	3
# of Plants	1900
# of Shrubs	152
# of Trees	115

\*Partner programs include LEAF Backyard Tree Planting Program and Native Plant Kit sales and Town of Richmond Hill Healthy Yards Plant Kit Sales. Other than partner programs, SNAP program offers are designed as incentive 'attention getters', while the main thrust of SNAP's Eco-Landscaping Program is for 'do-it-yourself' homeowner projects.

## Environics Survey of Neighbourhood Outcomes

An Environics telephone survey of 302 homes in the Lake Wilcox SNAP area during December 8-18, 2014, is considered representative, thus allowing the results to be extrapolated to the 3200 homes within the neighbourhood (Appendix C). The survey results indicate that 54% of residents installed a garden; 52% planted a tree; and 13% installed a rainbarrel or raingarden in the past five years. Of those who installed a garden, 59% said they installed an eco-landscape garden. As a conservative estimate, this finding should consider that 38% of residents reported being aware of the SNAP and that portion of respondents may have more likelihood of understanding the defining features of an eco-landscape garden.

These survey results could be used to extrapolate an estimation of neighbourhood-wide eco-landscape outcomes. Assuming that 38% of those aware of SNAP understood what "eco-landscaping" was, and applying this adjustment factor to the proportion of respondents who reported installing an eco-landscape garden (59% of 54% = 32%) this results in, conservatively, 12 % of 3200 homes implementing an eco-landscape; this equates to 384 homes who installed an eco-landscape garden.

Looking ahead, 31% of Lake Wilcox residents say that it is very likely they will plant a garden or do landscaping in the next two years, while 19% are very likely to plant a tree. These survey results point to significant ongoing interest in landscaping projects.



### *Environmental Outcomes*

The Lake Wilcox SNAP identified long term targets for increased urban forest, stormwater runoff reduction, water conservation and ecoservice outcomes. The SNAP study determined that these targets could be achieved in part by eco-landscaping actions on a portion of private residential lots.

The SNAP study targeted a doubling of urban matrix forest cover on private residential lots, by eco-landscaping on about 55% of lots. This area would represent about 15.7 ha (TRCA, 2012, *Lake Wilcox SNAP Phase 2 Report*). The percent of lots was cited to provide a more meaningful means of communicating the general level of effort required, and relates to the area-based target with consideration for average lot sizes and planting potential of lots. The average size of smaller front yards was estimated to be 0.0052 ha (TRCA, 2012, *Lake Wilcox SNAP Phase 2 Report*). This considered with the conservative number of 384 homes who installed eco-landscape gardens would equate to a 2 ha increase in urban forest cover. This increase represents 13% of the total target reached in the first 3 years of program implementation which exceeds the set short term target of a 10% increase in 3 years.

### **3.2.4 Observations and Lessons Learned**

Steady participation in program activities by new and repeat participants indicates a local interest in eco-landscaping, yet more needs to be done to increase uptake. Anecdotal feedback from residents visiting SNAP eco-landscape display booths at local events, indicate a high degree of brand recognition and interest, but lack of time is often cited as the reason why they have not yet taken action.

Programs need to use terms such as 'Low maintenance' since this is consistently cited by homeowners as a key motivator. Many also recognize environmental benefits, but this would be a value added feature rather than a selling point. The common comment "*I plan to do it; just haven't had time yet*" indicates opportunity for program improvements to meet the needs of this target audience. Future programs need to be simpler so the least amount of time and effort is needed to make a decision and act. Program offers up to now have had too many options thus proving to be too arduous for the resident or confusing. As such, a complete package that contains all that is needed (material, labour) to install a LID feature/garden feature would be ideal. A number of homeowners have also referred to "participating next year", indicating that many do not understand the 'time limited' aspect of the program offer. Each program should clearly indicate the time period of when the offer is valid.

With the significant (27%) interest from outside LW SNAP, especially west of Yonge St., there should be consideration for how to encourage action by those homeowners and also how to measure the program's impact beyond its boundaries..

Since the eco-landscaping program is mainly limited to gardening seasons and affected by weather, delivery timeframes can pose a great challenge. These risks and influences need to be considered when it comes to planning and reviewing outcomes.

### 3.3 Residential Energy Program

#### 3.3.1 Introduction and Key Objectives

The objectives for conducting this incentive-based pilot program was to increase awareness in the neighborhood regarding home energy conservation and energy sector rebate offers, provide renovation incentives and discern residential interest in solar (renewable) energy. Free solar power assessments and 25 rebated home energy audits were offered to home owners. A screening approach was undertaken when selecting homes for the energy audits; older homes were first approached, and those with a furnace of 10 years or older were considered. Through these offers homeowners discovered what changes could be made to their homes to save energy and possibly produce energy with solar panels. Only homes that were good candidates (roof in good shape, not shaded) for solar installation were offered a free assessment. Both the audit and assessments provided the resident a report on findings. Further to obtaining a report from the home energy audit, there was a sliding scale rebate offered from Enbridge. The rebate amount was dependent on the percentage of gas saved if the suggested improvements were implemented. In order to pre-qualify, there had to be at least a minimum of 25% gas savings identified from the home energy audit. This program was executed with the assistance of Windfall Ecology Centre who provided the certified home energy auditors and solar advisors. Another important objective of this program was to maintain community engagement and momentum of the SNAP program throughout the fall/winter.

#### 3.3.2 Program Uptake and Outcomes

To see how these programs were advertised, please see Table 1 (Section 3.2.2.).

<b>Participation and Uptake</b>	
Home energy audits booked	23
Home energy audits conducted	19
Solar PV assessments completed	19

#### Potential Environmental Outcomes:

<b>Home Energy Audit: Accumulative Potential Energy Saving Results (19 homes):</b>		
	<b>Potential Gigajoules (GJ) SAVED</b>	<b>Potential BTU Saved</b>
Totals	300.1	284494800
Average	15.8	14973410.5

<b>Solar Assessment Results (12 reports total):</b>	
<b>Variable</b>	<b>Lake Wilcox</b>
Average Size of an installed solar PV unit	7.6 kW
Average Output per year	7375 kWh/year

Average system cost to the home-owner	\$32885 Range: \$24,860 to \$40,680
Average income from this system	\$2786 Range: \$1931 to \$3735
Average Payback period	11.6 years Range: 9.4 years to 13.2 years
Carbon Offset	Average 3153 Combined 31534

**3.3.3 Observations and Lessons Learned**

Of the 25 available rebated home energy audits, 23 were scheduled with 4 cancellations. The considerable interest in solar power assessments indicated a fair degree of curiosity (open-mindedness) in these residents for renewable energy.

A part of the success of this program’s uptake could be attributed to the door-to-door approach which provided personal contact; this may have proven to be more effective than flyer drop-offs and/or inserts. This approach also provided opportunity to connect to and increase awareness of the SNAP program. Further, the substantial incentives (rebates and energy savings kits) likely contributed to this uptake.

Of those that participated, 80% did not have any significant surprise findings. This indicated that many residents knew their homes. The residents that engaged in this offer are representative of the group consistent with previous social marketing research; the portion of the community that is environmentally conscious but seeks good economic business cases in order to adopt an action. Many of these individuals wanted to check their homes to ensure they were as energy efficient as possible. The challenge becomes engaging those who are not aware of energy conserving methods for their homes. A few non-participants expressed their disinterest which was due to the fact that they already had an idea of what needed to be done to their homes to increase energy efficiency (i.e. window replacement, new furnace) but they were not prepared to afford costly renovations that would likely be recommended in the report. As such, they saw no reason to have an audit. There were a number who did not participate as they were about to sell their home or do a complete demolition and rebuild. Many of those that participated expressed that they would likely not have done this on their own due to the cost (\$395) but in the end said it was worth it.

In reviewing these outcomes, a more stringent screening process could have been undertaken (i.e. only offering the audit to those with furnaces 18 years or older), however, the distribution of homes (see Figure 7) and the group engaged was a good representation of the neighbourhood thus providing good insight.

In order to obtain the rebate, for those that pre-qualified (their home showed measures that could be taken to reach a 25% gas savings), the homeowners had to complete the upgrades in a year’s time. Participants indicated that this was too tight a deadline, needing time to plan and phase upgrades and financing. Additionally, they found the rebate program (Enbridge’s) too complicated. Simplifying this and the process was suggested. This reinforces the same lesson learned to simplify eco-landscaping programs.

*Follow-up visits and Participant feedback:*

After the resident received their report from the home energy audit, a follow-up visit was completed. Homeowners feedback regarding home energy audits was very positive with some common comments and requests such as:

- a) "Okay, we've done the audit, now what?"
- b) "How much will these upgrades cost me?"
- c) "Can you recommend someone who can do this work?" Recommend contractors?
- d) "Where can I get quotes to do this work?"
- e) "Why aren't you helping us with the next steps?"
- f) There also seemed to be a demand for tankless water heaters (suppliers and installers).

One year after receiving their report (November 2014) another follow-up was conducted to see if participants had acted on the suggestions provided or if they were moving forward with solar installation. Of the 19 participants 9 provided feedback as follows

- 6 did not take any action as their home was already rated well and no further significant energy savings were possible.
- 2 did some minor changes like replacing light bulbs, draft-proofing
- 1 added insulation and baffling to the attic and replaced 2 toilets
- 1 (had energy audit and solar assessment) Will not install solar panels due to the changed rates; did not think it was cost effective.

One participant in particular provided insightful feedback. Their home was quite energy efficient but there was a section of the attic that could have used more insulation. They had set aside a portion of their budget determined to do this, but due to the December 2013 ice storm and the fact that they were without power for 2.5 days, they decided it was wiser to install a generator. Once their budgets allows, they do plan on doing the insulating. They found the audit extremely helpful in giving them the information they needed to make a confident decision.

As previously discussed, it is pertinent to keep abreast of neighbourhood trends not only to properly assess outcomes, but to change program offers and actions when possible. This situation indicates how trends can result from our changing weather patterns. The increased frequency of severe weather events will have consequences which will affect both uptake and outcomes.

Overall this program provided great insight into the energy efficiency of some homes in the SNAP area and the fact that people are interested and generally receptive to these sorts of offers; both energy savings and green energy technologies (solar). This also provided education and information for those that participated. Additionally, these residents are now keen to hear about future similar SNAP programs and offers.

## **3.4 Solar Pool Hot Water Heater Pilot Program**

### **3.4.1 Introduction and Key Objectives**

This pilot project, conducted with SolarOntario Ltd., had the following objectives.

- 1) To inform and promote the use of solar powered heating and solar powered pumping systems for residential pools, while also determining the level of interest.
- 2) Obtain a detailed understanding of the feasibility of such lots, and then understand the motivations and barriers to uptake. This information could then inform the development of a larger program and partnership with the private sector.

Identified from an aerial photo there are over 200 pools known to exist in the Lake Wilcox SNAP which could equate to significant potential energy savings if solar was installed in place of electric (primarily) heating and pumping systems. Indicated by Solar Ontario Ltd., historically, depending on the age of the area, about 1/3 of the homes with pools tend to be good candidates. In Lake Wilcox, it was reasonable to expect between 70 and 80 viable sites. Considering that these systems have a good return on investment, it was determined to be a good prospect for homeowners. In summary, the ROI and associated gas or electricity savings were estimated to be as follows (provided by SolarOntario Ltd.):

#### **Pool Solar Heating:**

- \$600 - \$2,000 seasonally to heat a pool with natural gas, depending on heating schedule
- Solar Heating Installation \$3,000 - \$6,000
  - ROI 1.5 - 6 years (typical 3 years)

#### **Solar Pool Pump**

- \$600 - \$2,000 seasonally with electrical pool pump (depending on size of pump and hours/day it is run; 12 or 24 hours)
- Solar Pool Pump Installation \$7,000 - \$9,000
  - ROI 3.5 - 9 years (typical 6 - 8 years)

As such, SNAP set out to help develop a market which would connect homeowners with the industry. SolarOntario performed a pre-assessment based on this aerial imagery and provided a short list of viable candidates (addresses). Of these, SNAP randomly selected 25 homes to approach. In December 2013 to February 2014 a targeted mail and door-to-door campaign was undertaken to inform these residents about solar pool heating technology and the potential energy and financial savings. Contact information for interested residents was forwarded to SolarOntario who then arranged and conducted an on-site assessment with the home.

### **3.4.2 Program Uptake**

Four residents showed interest in the program out of the 25 contacted (one contacted Solar Ontario directly not informing SNAP) and a home visit and consultation with a representative from Solar Ontario Ltd. was completed. At the time this report was written, none of these homeowners had installed a system for different reasons as follows:

- Not a good site; roof was facing the wrong direction.
- Roof had to be replaced.
- Individual was too busy to follow-up.
- Was not interested due to the cost: too expensive.

### **3.4.3 Observations and Lessons Learned**

Of the randomly selected homeowners approached (25), 4 (16%) showed enough interest to have an assessment. This is a positive outcome considering the time of year these residents were approached; being winter and a holiday season. People are usually not thinking of their pool at this time, and featuring such an investment during and/or right after a costly holiday poses great challenge. Solar Ontario Ltd. also conveyed this conclusion, further advising that the best time to make first contact with homeowners for such a program would ideally be late January to February.

Even though viable candidates were identified, of the 4 that received consultations, half (2) of these were, upon closer examination, not eligible due to structure limitations (old roof needing replacing or facing the wrong way). Another barrier expressed had to do with cost.

It takes time for people to become aware of options and plan in order to take up such opportunities and actions. Considering the outcomes of this small scale pilot program, even against challenges (timing of program offer) it would be reasonable to continue to promote these technologies in a measured way (i.e. passive promotion alongside eco-landscaping offers). With the valuable lessons learned here and a program framework already developed, this program offer can now be readily applied in another SNAP that has a significant number of pools (i.e. Bayview Glen).

## **3.5 School Projects**

### **3.5.1 Bond Lake Public School Bioswale**

A bioswale will be installed at Bond Lake Public School in Richmond Hill in Spring 2015 as part of the York Region Integrated Watershed Management Plan to introduce Low Impact Development (LID) and outdoor water conservation measures. The project will consist of a bioswale-rain garden that will receive runoff from an area of 1860m<sup>2</sup>, capturing a 20mm stormwater event.

This LID-feature will be situated at the front of the school, bordering the driveway drop-off area. The visibility of this location will provide high exposure to parents and the neighbourhood and as such, serve as a demonstration and educational opportunity.

The connection with the school will also represent an opportunity to cross promote eco-landscaping actions for the home.

## **4.0 Neighbourhood Scale Monitoring Methods and Results**

In the long term, the intent of the SNAP performance monitoring program is to review the resulting neighbourhood conditions in relation to the target set within the Action Plan. Extrapolation of the outcomes associated with known actions undertaken, together with other sources of aggregated neighbourhood scale data (e.g. urban forest inventories, energy and water use, etc.) will form the basis of this assessment. Reporting will address the following indicators:

- Stormwater Management
- Water Efficiency
- Urban Forest and Biodiversity
- Energy
- Sense of Community

Given that Lake Wilcox SNAP implementation programs have only been underway for less than two years, it is premature to report on neighbourhood scale at this time.

## **5.0 Overall Evaluation of Monitoring Results and Comparison to Other Programs**

Although the Lake Wilcox SNAP's residential retrofit implementation programs are still in their very early stages, several overall observations can be made.

The Front Yard Makeover demonstrations were extremely effective at engaging homeowner attention and generating interest in eco-landscaping. Monitoring of the projects has shown their effectiveness at runoff reduction and re-use potential.

The various events and incentive-based program offers have generated a lot of interest and "brand recognition" for eco-landscaping, with some implementation already underway and many anecdotal comments to indicate other homeowners would like to incorporate eco-landscaping elements, but they haven't yet had time or money to do so.

Based on available records, 59% of those SNAP area households engaged in some aspect of the program's events or offers (135 out of 228) and 4% of all households within the SNAP area (135 out of 3200) have implemented at least one type of eco-landscaping action. Factors affecting these uptake results have been discussed and may include: weather, method of advertising, lack of time and inadequate convenience for this busy family oriented community, and lack of upfront capital available to invest.

### Comparison to other Programs

It is important to begin to compare the results of the SNAP's locally tailored approach to that of other more broadly designed and delivered programs. A fundamental goal of the SNAP was to identify strategies for increasing the rate of implementation of lot level actions across a range of program categories.

#### *Other SNAPs*

The level of household participation in Lake Wilcox SNAP is within the same order of magnitude and similar to that in other pilot SNAP neighbourhoods where locally tailored residential programs have also been implemented during 2012-2013. The proportion of homes who have adopted an action, while also within the same order of magnitude, is slightly lower than in other SNAPs, such as Black Creek where close to 10% of homes have adopted at least one action (TRCA, 2014, Black Creek SNAP Performance Monitoring Interim Report). This may be associated with the relatively higher cost actions expected in Lake Wilcox and weaker program-wide incentives.

*Other Similar Programs Delivered Region-Wide*

In order to assess engagement and uptake, similar programs were reviewed for comparison. One such eco-landscaping incentive program offered in Howard County Maryland had 0.05% households implement an action in year one (Creating and Enhancing Your Residential BMP Program, Chesapeake Stormwater Network, Webinar 18Sep14). This rebate program was mass marketed county wide (105,000 households with average household incomes similar to Lake Wilcox). In comparison, it would appear that the Lake Wilcox SNAP results are positive, in that they are an order of magnitude higher than this neighbourhood-wide campaign, even at this early stage of implementation. A locally tailored program, delivered at the neighbourhood scale, may provide greater overall effectiveness in the long term

Although awareness is necessary for an action to be adopted, this is not a positive correlation. Interestingly, a Maryland program also found that the more involved (time and/or money investment) the desired action was, the greater the ratio of awareness to adoption (Creating and Enhancing Your Residential BMP Program, Chesapeake Stormwater Network, Webinar 18Sep14). For instance, regarding low fertilizer lawn care best management practices, the ratio of those that were aware to those that adopted was 3:1. With rain gardens, those that were aware to those who adopted was 17:1. A conclusion realized from this study that can be similarly stated for the SNAP is that these types of eco-landscaping programs require time; first, to make people aware of the best management practices, and secondly to allow them time to plan to adopt such desired actions. These projects require a considerable investment in time and/or money and involve decisions that affect the property for many years.

Another similar finding from the Maryland study is that the greatest barrier to uptake of these actions is cost. Rebates seem to have the potential to increase uptake as indicated with a survey conducted by Maryland where triple the number of people said they would adopt a rain garden if there was a 50% rebate offer.

*Partner program uptake within and outside SNAP*

As another way to measure if the program is having influence in the neighbourhood, data from partnering programs that offer eco-landscaping services and products was evaluated. The LEAF and Town of Richmond Hill programs were specifically promoted to the SNAP neighbourhood, but are also available more broadly within the Town of Richmond Hill. It was postulated that the uptake of those programs should be higher in the SNAP area as a result of additional promotions, as compared to the rates of uptake in the rest of the Town. Healthy Yards 2011-2014 plant kit sales were consistently higher in the SNAP area, as compared to Town-wide. LEAF 2011-2014 sales were similar or higher in SNAP than Town-wide.

**Richmond Hill Healthy Yards Uptake**

	Within LW SNAP			Richmond Hill Town-Wide*		
Year	# Households	HY Sales	% Uptake	# Households	HY Sales	% Uptake
2011	3780	11	0.29	54878	64	0.12
2012	3780	29	0.77	54878	259	0.47
2013	4599	18	0.39	60656	158	0.26
2014	4599	27	0.59	60656	160	0.26
				*Excludes SNAP area		



### LEAF Tree, Shrub & Plant Kit sales

Year	Within LW SNAP			Richmond Hill Town-Wide*		
	# Households	LEAF Sales	% Uptake	# Households	LEAF Sales	% Uptake
2011	3780	8	0.21	54878	124	0.23
2012	3780	27	0.71	54878	62	0.11
2013	4599	17	0.37	60656	87	0.14
2014	4599	12	0.26	60656	74	0.12
				*Excludes SNAP area		

#### Advertising

The earlier observation that more locally targeted marketing for SNAP events (especially personally addressed mail) achieved greater participation is consistent with marketing industry trends. The Direct Marketing Association has found that direct mail boosts a 4.4% rate, compared to email's average response rate of 0.12% ([www.dmanews.com](http://www.dmanews.com), June 14, 2012). "Mass marketing campaigns have a 2 percent response rate and are on the decline, whereas by 2015, digital strategies, such as social and mobile marketing, will influence at least 80 percent of consumers' discretionary spending" (Adam Sarner, research director at Gartner, March 29, 2011, <http://www.gartner.com/resId=1560514>). Along with SNAP's twitter account, other social media should be explored and used more extensively.

### 6.0 Conclusions and Recommendations

In conclusion, there is interest and awareness of the SNAP program and its initiatives. The desired actions are significant investments and thus take time for families to plan and budget. Programs like SNAP provide the impetus for residents to learn of and implement environmentally smart options. In light of this, it is warranted to continue the momentum of the program at least another year focusing on the following:

- 1) Build on the momentum and interest in eco-landscaping that has been generated by facilitating action by homeowners.
- 2) Continue promoting the private sector and other local groups that can provide these services, and bring neighbourhood-wide awareness of these sources. Consequently, this increases market demand and stimulates industry to develop skilled labour, services and products (i.e. residential level LID landscape products and skill).
- 3) Continue shaping a trend of landscaping that is eco-smart and aesthetically appealing.

The observation of a high number of home re-sales, infill and rebuilds provides opportunity for the Town to encourage sustainable actions such as those promoted through the SNAP programs. It would be effective to integrate sustainable elements in the development standards, including them in the permit evaluation process. This would not only direct development on a sustainable path, but would also mitigate expensive remediation plans.

## Appendix A: Lake Wilcox SNAP - Summary of Baseline Conditions and Targets

Excerpt from *Lake Wilcox SNAP Performance Monitoring Plan* (TRCA, 2013)

Indicator	Aggregated Neighbourhood Scale Conditions		Lot scale Uptake of Actions		Notes
	Baseline	Condition Target	Baseline	Effort Target	
<b>Urban Forest Cover</b>					
Natural heritage cover	161.24 ha (1) (25.07%)	21.12 ha increase (13.1% increase) <i>(Represents 182.36 ha total cover; 28.36% of study area)</i>	Assume negligible	2.63 ha increase (100% of priority lots)	(1) Based on 2007 aerial ortho photography
Matrix forest cover	16.32 ha (2.54%)	LOW: 15.7 ha increase (96% increase) <i>(Represents 31.97 ha total matrix cover; 5% of study area)</i> OR HIGH: 28.48 ha increase (174% increase) <i>(Represents 44.8 ha total matrix cover; 6.97% of study area)</i>	Est. 5.7 ha, not including street trees (2)	15.7 ha increase would require <b>55% of residential lots</b> to be eco-landscaped OR 28.48 ha increase would require <b>100% of residential lots</b> to be eco-landscaped	(2) Estimated from resident survey result that 20% of lots are landscaped.
TOTAL Urban Forest Cover	177.56 ha (27.61%)	LOW: 36.77 ha increase (20.71% increase) <i>(Represents 214.33 ha total cover and 33.33% of study area)</i> OR HIGH: 49.6 ha increase (27.93% increase) <i>(Represents 227.16 ha in total cover and 35.32% of study area)</i> <i>(Note3)</i>			(3) Lake Wilcox SNAP's long term target is to increase urban forest cover from 27% to 35%. Our initial program target of effort is for 55% of lots to be eco-landscaped.
<b>Stormwater runoff and quality</b>	(4)	40-50% Phosphorus removal	N/A	46% of residential lots eco-landscaped	(4) Town of Richmond Hill and TRCA have locally available data representative of typical residential stormwater

					runoff quality and quantity. No new data collection was deemed necessary for the LW SNAP, especially in consideration of the many sub-catchments and separate outfalls to the lake which would make comprehensive monitoring cost prohibitive.
<b>Water use</b>	214 l/ca/day (2009 data)	150 l/ca/day (long term target)	Residents surveyed had: low flow toilet (74%), low flow shower head (86%), low flow faucet (51%), rain barrel (21%), automatic irrigation (12%) – (5)	N/A (5)	(5) Door to door resident survey of baseline behaviours conducted in 2010. (6) No specific target has been set, with focus on the eco-landscape targets as a surrogate.
<b>Sense of community</b>	Many residents have a strong sense of community, although there is no one community identity or set of environmental norms that is common to all residents. Residents closer to the Lake had a stronger sense of neighbourhood identity, and stronger feelings of attachment to Lake Wilcox and the	Increase consistency in sense of community among residents.  Increase participation in community events by a representative cross section of residents.	See neighbourhood scale.	See neighbourhood scale.	(7) See also Lightman, 2011 – CBSM at the Neighborhood Scale

	Oak Ridges community. In contrast, residents in the newer area had a somewhat weaker sense of neighbourhood identity and felt more disconnected from both the Lake and the Oak Ridges community (7)				
--	---	--	--	--	--

**Appendix B: Front Yard Makeover Homeowner Survey responses**

Address: 20 Wheatsheaf St.  
Date: 11Nov14

**Front Yard Makeover Feedback Survey (Lake Wilcox)**

Please base your feedback on the previous two seasons (2013 & 2014). If there were any significant differences between these seasons, please make a note. Where applicable, please underline (Ctrl +U) or bold (Ctrl+B) your answer. Thank-you!

1. Generally, how satisfied are you with your front yard landscaping?			
<b><u>Very Satisfied</u></b>	Satisfied	Not Satisfied	
If 'not satisfied', please comment:			
2. What features do you like most? <b><i>Different native plants and flowers creating colours for every season and the use of rain barrel.</i></b>			
3. What features do you least like? <b><i>None, I like every aspect of it.</i></b>			
4. How are you using your front yard? <b><i>Sitting out in the front porch enjoying the plants and small animals with my young children. Watching the changes in every season.</i></b>			
5. Do you think this yard is more engaging for the kids than a lawn? <u>Yes</u> No			
Are there any particular features that engage the kids more? <b><i>Yes, not only us, but my neighbours kids often play on our front lawn too, it's more of like a little park for them to explore.</i></b>			
6. How would you rate the beauty of your front yard? (1 = Beautiful, 3= Not Beautiful)			
_____ <u>1</u>	_____ 2	_____ 3	
Comments: <b><i>I would definitely rank it 1, I love my garden and creates such open space to enjoy (vs traditional lawn)</i></b>			
7. How would you rate neighbours response to your front yard landscape?			
<b><u>Very Positive</u></b>	Positive	Indifferent	Negative
What is a common comment you hear from neighbours? <b><i>Environmentally friendly garden yet artistic and multi use.</i></b>			
8. Have you noticed a change in the birds and wildlife in your yard (compared to before the makeover)? Please explain: <b><i>Yes, much more small animals and wildlife, especially butterfly bees. There is a small chipmunk family living under our wooden bridge during the spring.</i></b>			

9. How often do you water your new garden during hot, dry weather (check one)?

Every day  
 Every other day  
 Two to three times a week  
 **Once a week**  
 Rarely  
 Never

Did you use water from your rain barrel?      **Yes**      No

Did you use (household) potable water to water your garden?      Yes      **No**

---

10. When you water your new garden, how long do you water for?

5 min  
 **10 min**  
 20 min  
 30 min  
 1 hour  
 Never watered

---

11. From your pre-installation survey, you indicated spending up to 2 hours (120 minutes) a week maintaining your previous landscape. Now, on average, how many minutes per week (during the growing season) did you spend maintaining your yard?

\_\_\_\_\_ **45 minutes**

How long did you perform any of the following maintenance activities in your new garden (in average minutes per week)

- Fertilize – **n/a**
- Weed – **30**
- Mulch - **5**
- Rain barrel - **10**

Other (please specify):

---

12. For others wanting a low maintenance but interesting landscape, would you recommend a front yard design like you have?

**Yes**                      Maybe                      No

If 'Maybe' or 'No', please comment:

---

13. Have you noticed any new ponding or drainage issues in your front yard?

**Never**                      Sometimes                      Frequently

Comment:

---

14. Are all of the elements (i.e. rain garden, rain barrel, dry river beds, permeable pavement) functioning to your satisfaction?      **Yes**      No

If not, please explain:

---

15. Are all of the plant materials growing to your satisfaction?      **Yes**      No

If not, please explain:	
16. Is there anything you would change about your front yard?	<b>no</b>
17. How proud are you of the environmental benefits your front yard provides?	
	<b><u>Very proud</u></b> Indifferent                      Not proud
Are your neighbours aware of the environmental benefits your yard contributes?	<b><u>Yes</u></b>
No	
18. Do you have any other comments?	

Address: 95 Wheelwright Drive.  
Date: 11Nov14

### **Front Yard Makeover Feedback Survey (Lake Wilcox)**

Please base your feedback on the previous two seasons (2013 & 2014). If there were any significant differences between these seasons, please make a note. Where applicable, please underline (Ctrl +U) or bold (Ctrl+B) your answer. Thank-you!

19. Generally, how satisfied are you with your front yard landscaping?			
	<b>Very Satisfied</b>	Satisfied	Not Satisfied
If 'not satisfied', please comment:			
20. What features do you like most?	<b>The pond and dry river with bridge</b>		
21. What features do you least like?	<b>There were soaker hoses placed throughout my garden, but the pressure from the rain barrel wasn't enough for the water to travel the whole length of the hose.</b>		
22. How are you using your front yard?	<b>We are outside and use it every day in the summer. Neighbourhood kids play in our garden and pick the wild strawberries when ripe. The girls love to help weed and use the rainbarrel water to water the plants. They also like digging through the garden for bugs and worms.</b>		
23. Do you think this yard is more engaging for the kids than a lawn?	<b>Yes</b>	No	
Are there any particular features that engage the kids more?			
<b>They love the bridge and sitting on the wooden bench.</b>			

24. How would you rate the beauty of your front yard? (1 = Beautiful, 3= Not Beautiful)

1

2

3

Comments:

25. How would you rate neighbours response to your front yard landscape?

**Very Positive**

Positive

Indifferent

Negative

What is a common comment you hear from neighbours?

26. Have you noticed a change in the birds and wildlife in your yard (compared to before the makeover)? Please explain: **lots of butterflies and we see hummingbirds too. There was also a nest of baby rabbits in our front garden this summer.**

27. How often do you water your new garden during hot, dry weather (check one)?

- Every day
- Every other day
- Two to three times a week
- Once a week (with the rain barrel)**
- Rarely
- Never

Did you use water from your rain barrel?      **Yes**      No

Did you use (household) potable water to water your garden?      Yes      **No**

28. When you water your new garden, how long do you water for?

- 5 min
- 10 min
- 20 min**
- 30 min
- 1 hour
- Never watered

29. From your pre-installation survey, you indicated spending up to 2 hours (120 minutes) a week maintaining your previous landscape. Now, on average, how many minutes per week (during the growing season) did you spend maintaining your yard?

\_\_\_ **45** \_\_\_\_\_ minutes

How long did you perform any of the following maintenance activities in your new garden (in average minutes per week)

- Fertilize \_\_\_\_\_
- Weed \_\_\_ **40** \_\_\_\_\_
- Mulch \_\_\_ **5** \_\_\_\_\_
- Rain barrel \_\_\_\_\_



Other (please specify): <b>I think we have lots of weeds due to our neighbouring lawns being full of weeds and perhaps we need a thicker layer of mulch. Some neighbours have more weeds than grass on their lawn.</b>		
30. For others wanting a low maintenance but interesting landscape, would you recommend a front yard design like you have?		
<b>Yes</b>	Maybe	No
If 'Maybe' or 'No', please comment: <b>I think in other neighbourhoods where people maintain their lawn better, this garden would be much easier to maintain. My parents barely mulch their garden but they rarely have weeds b/c their neighbours all keep tidy lawns.</b>		
31. Have you noticed <u>any new</u> ponding or drainage issues in your front yard?		
<b>Never</b>	Sometimes	Frequently
Comment:		
32. Are all of the elements (i.e. rain garden, rain barrel, dry river beds, permeable pavement) functioning to your satisfaction?		
<b>Yes</b>	No	
If not, please explain:		
33. Are all of the plant materials growing to your satisfaction?		
Yes	<b>No</b>	
If not, please explain: <b>We have had to replace many plants this past summer (partially due to extreme cold winter and rabbits eating/killing our plants). The big serviceberry at the front of our house was chewed down considerably and the top half all died. We probably spent about \$300+ this past year replacing plants and adding mulch.</b>		
34. Is there anything you would change about your front yard?		
<b>No, we think it's beautiful and speak often about it with friends/neighbours.</b>		
35. How proud are you of the environmental benefits your front yard provides?		
<b>Very proud</b>	Indifferent	Not proud
Are your neighbours aware of the environmental benefits your yard contributes?		
No	<b>Yes</b>	
36. Do you have any other comments?		
<b>We are grateful for the opportunity to be part of such an eco-friendly project. We continue to maintain our garden with pride. Perhaps a small budget or place to buy discounted plants/mulch would be nice for future participants.</b>		

# Community SNAP Survey: Topline Report

*Prepared for: Toronto Region Conservation Authority*



# Summary

---

- Awareness of neighbourhood SNAP Programs is higher in the community of County Court, where a majority of residents (54%) are familiar with the program, than in Lake Wilcox (38%).
- For previous home improvements, residents of County Court were more likely to have completed larger improvements in the home, such as replacing plumbing features or installing new heating or cooling systems. In Lake Wilcox, residents have completed more external improvements such as planting trees or installing a garden.
- In Lake Wilcox, half of the gardens added in the past five years are eco-landscape gardens.
- Fusion landscape gardens are somewhat less common in County Court, comprising four in ten of new gardens installed.

# Summary

---

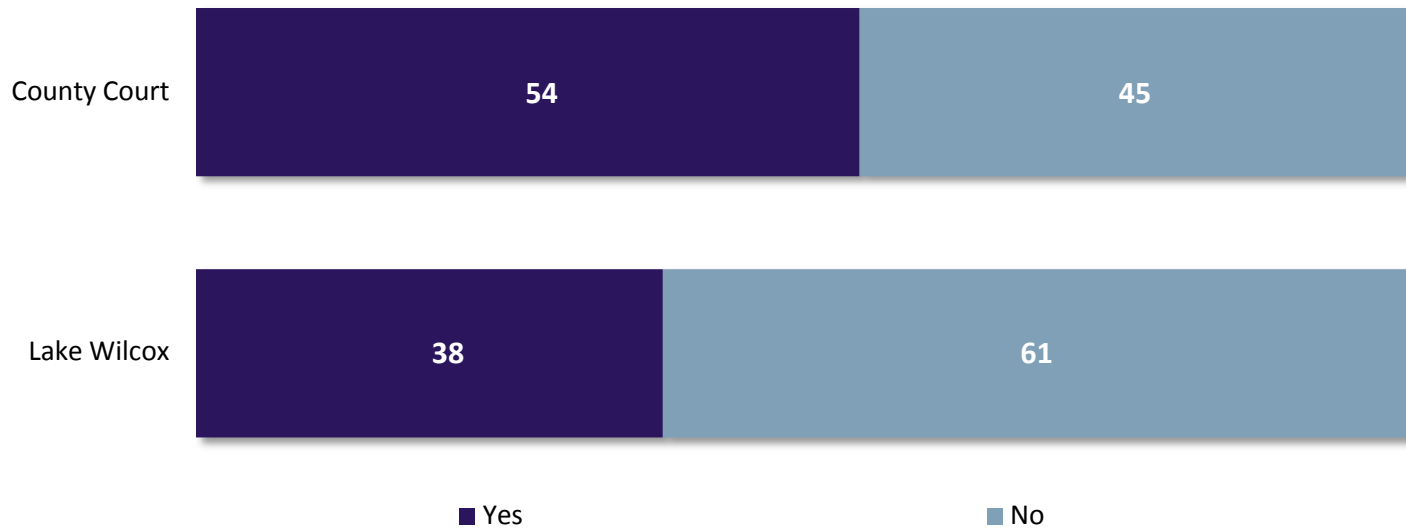
- Looking ahead, the most likely home improvements in the next two years are installing a garden and planting a tree, however, residents of Lake Wilcox are somewhat more likely to complete both.
- Residents of Lake Wilcox find the idea of a do-it-yourself garden planting kit to be the most appealing service to encourage environmentally friendly improvements.
- In County Court, residents think free LED lights, tree planting and gift cards for plants and vegetables to be the best incentives for participation in the SNAP Program.
- Residents of both neighbourhoods have a similar sense of community. They consider their neighbourhood as part of their identity, but also feel that they lack influence over what the neighbourhood is like.

---

# SNAP Program

# Residents of County Court are generally more aware of their local SNAP Program

## Awareness of SNAP Program

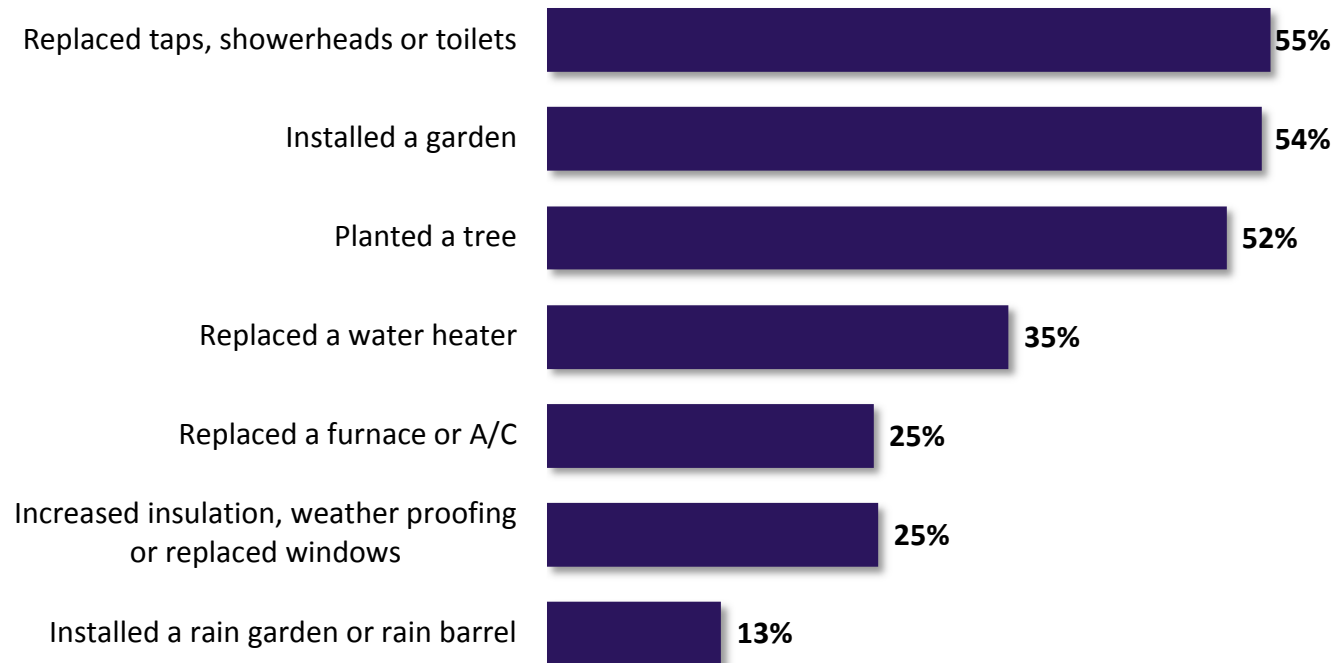


Before asking about awareness, residents of County Court and Lake Wilcox were given brief descriptions of their local SNAP Programs. Awareness is highest in County Court, where the majority of residents (54%) are aware of their neighbourhood program. In lake Wilcox, four in ten (38%) are aware of their SNAP Program. Across both neighbourhoods, awareness is higher among residents who are older in age, and among those who live in detached homes.

7. Before today, were you aware of the SNAP program?

## Replacing plumbing fixtures, installing gardens and planting trees are the most common improvements among residents of Lake Wilcox

### Home improvements in past five years – Lake Wilcox

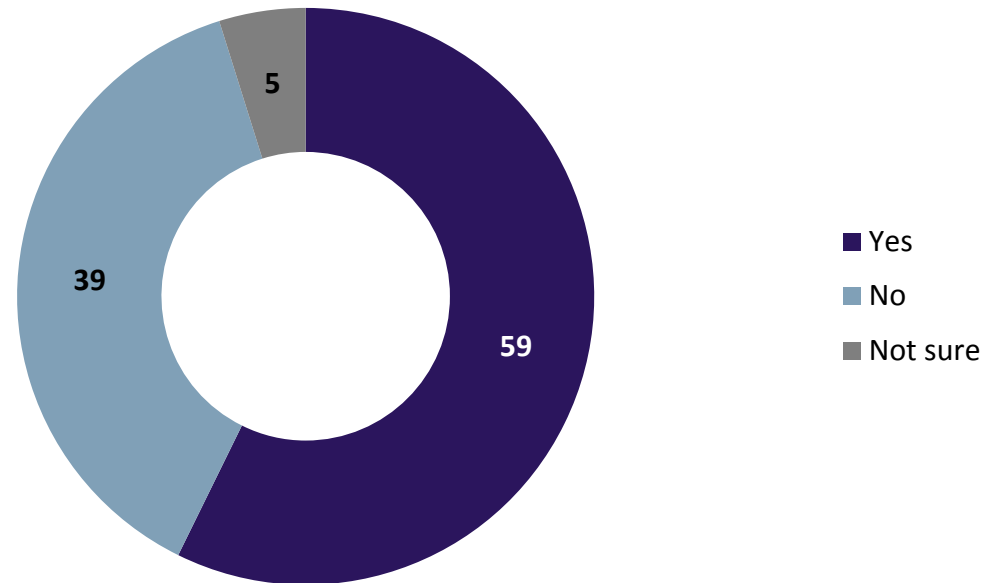


Among Lake Wilcox residents, the most common home improvements in the past five years include replacing plumbing fixtures (55%), installing a garden (54%), and planting a tree (52%). One in three residents have replaced a water heater (35%), while one in four each have replaced a furnace or air conditioning unit (25%) or increased weather proofing in their home. Rain barrels or rain gardens are the least likely home improvements, having been completed by one in ten (13%).

5. In the past five years, have you completed any of the following improvements on your home?

# Of those homes that installed a garden, more than half were Eco-landscape gardens

## Installation of Eco-landscape garden – Lake Wilcox *Among those who have installed a garden in the past 5 years*



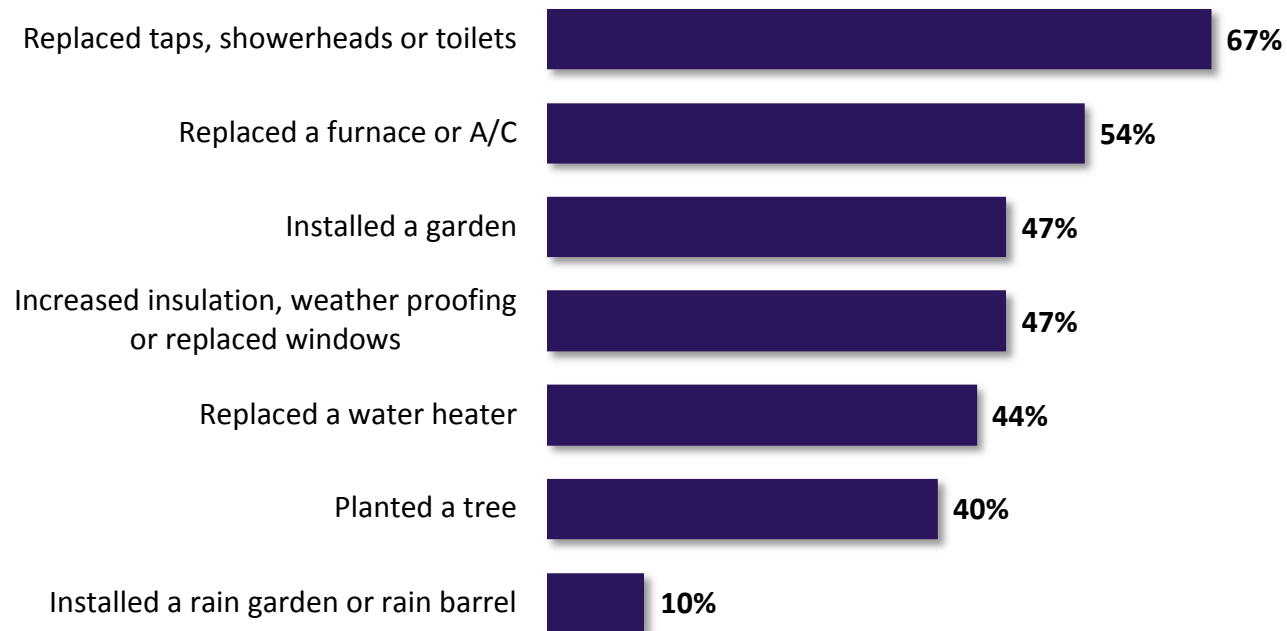
Among the slightly more than half (54%, from previous slide) of Lake Wilcox residents who have added a garden to their home in the past five years, six in ten (59%) have installed an Eco-landscape garden. Residents who are aware of the SNAP program are significantly more likely to have installed an Eco-Landscape garden.

6A. Is the garden you installed an eco-landscape garden? Subsample: Those who have installed a garden (n=164)



## County Court residents most often replaced plumbing fixtures, and heating and cooling systems in the past five years

### Home improvements in past five years – County Court

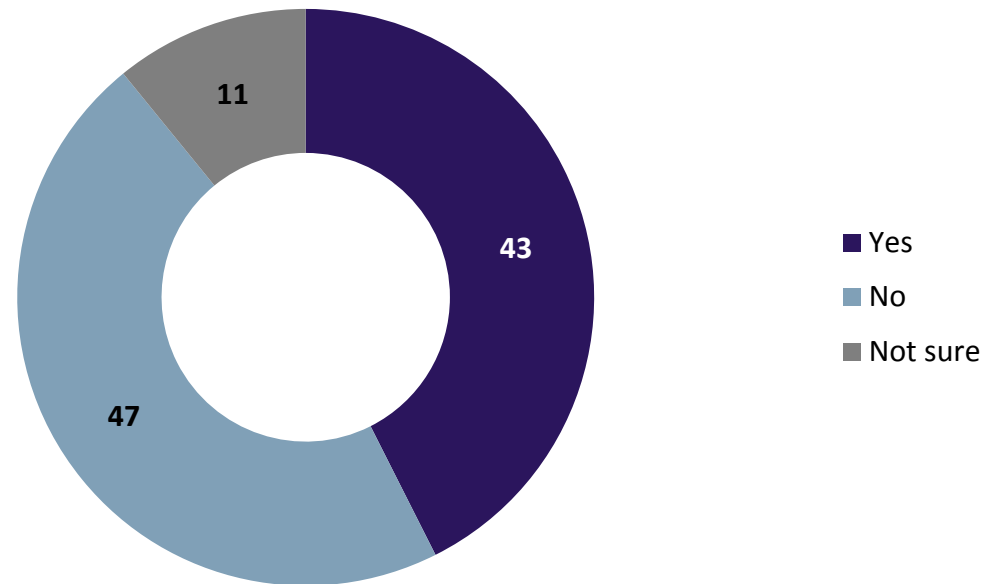


In the past five years, two in three (67%) County Court residents have replaced plumbing fixtures, while half have replaced a furnace or AC (54%), installed a garden (47%) or increased insulation or weather proofing (47%) in their home. Four in ten each have replaced a water heater (44%) or planted a tree (40%), while one in ten (10%) have installed a rain barrel.

5. In the past five years, have you completed any of the following improvements on your home?

## Fewer than half of the gardens installed in County Court in the past five years have been Fusion Landscape gardens

### Installation of Fusion Landscape garden – County Court *Among those who have installed a garden in the past 5 years*

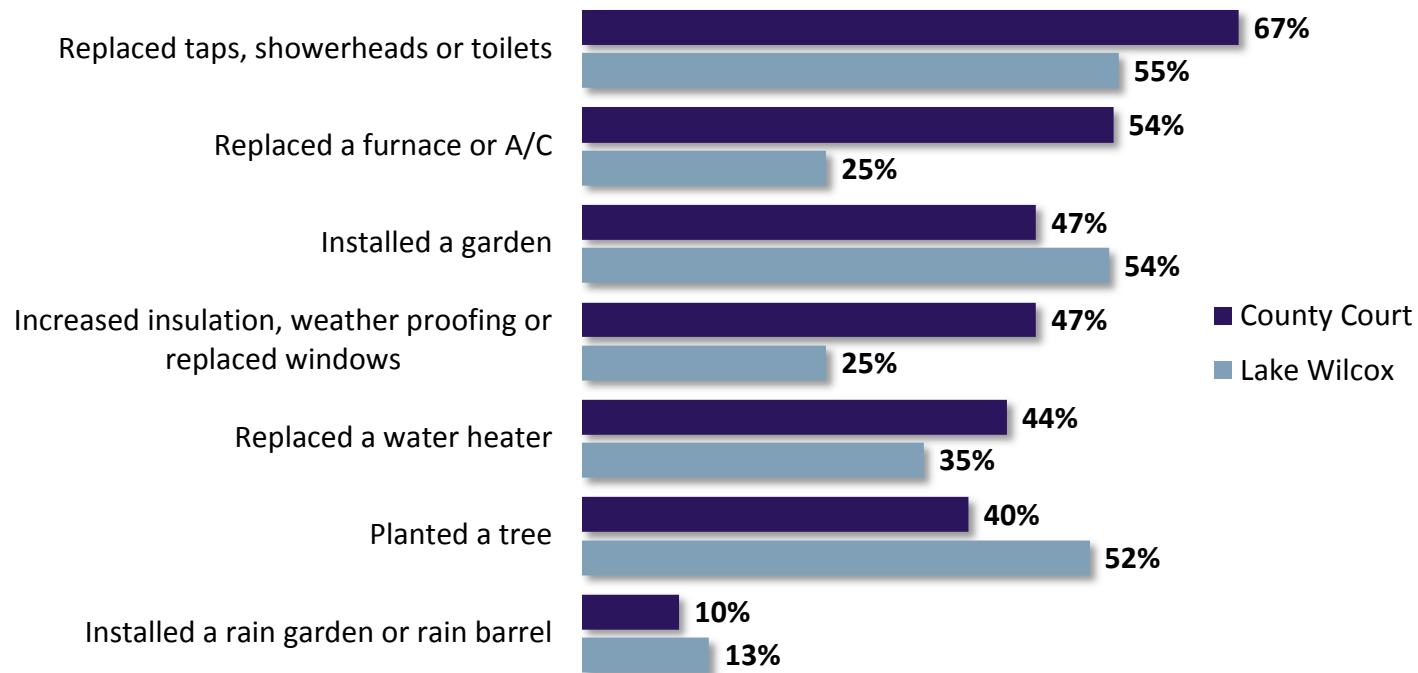


Of the County Court households that have installed a garden in the past five years (47%, from previous slide) four in ten (43%) say that the garden is a fusion landscape design. Unlike in Lake Wilcox, awareness of the SNAP Program had no significant impact on the installation of a Fusion Landscape Garden.

6B. Is the garden you installed a fusion landscape garden? Subsample: Those who have installed a garden (n=47)

# County Court residents are more likely to have undertaken large home improvements, such as plumbing fixtures, heating and cooling systems or improved weather proofing

## Home improvements in past five years

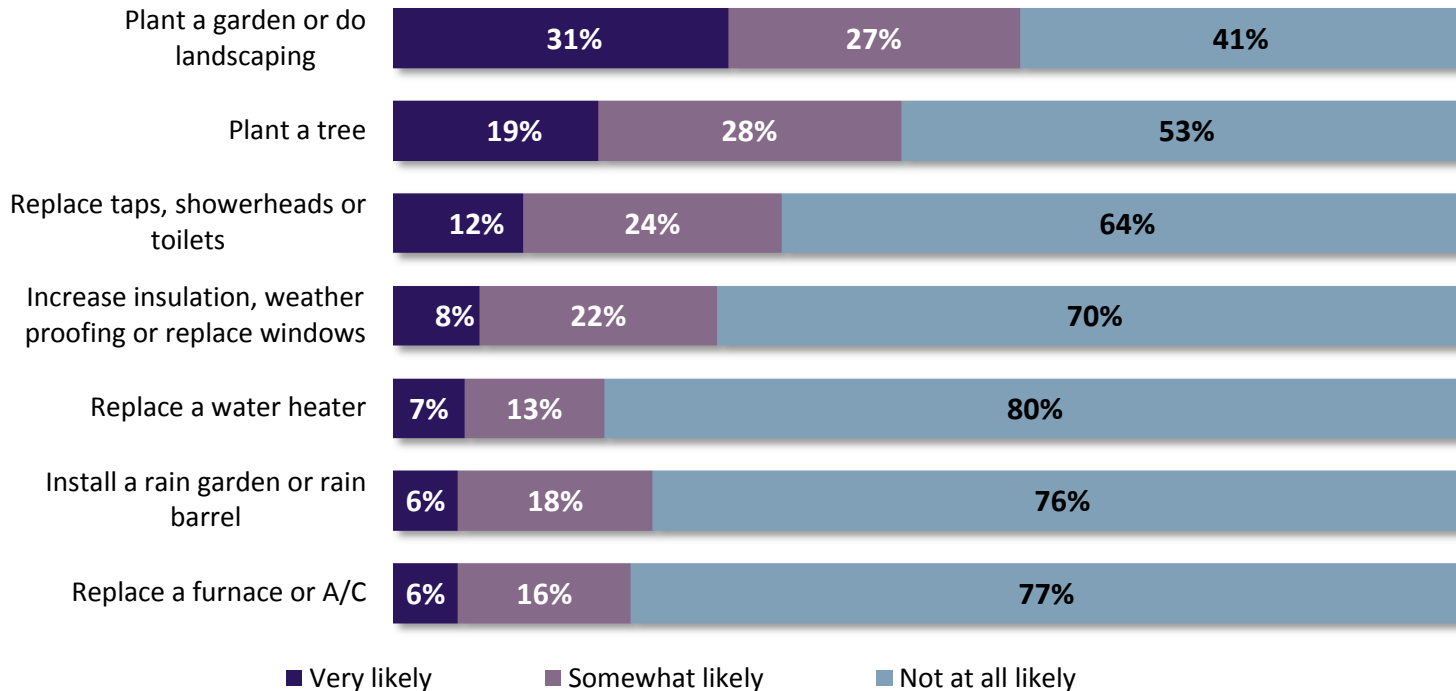


Comparing the two neighbourhoods, large, internal home improvements such as replacing plumbing fixtures, replacing heating or cooling systems, or replacing water heaters were more common in County Court. Residents of Lake Wilcox were more likely to make improvements to the outside of their home, such as installing gardens or planting trees.

5. In the past five years, have you completed any of the following improvements on your home?

Lake Wilcox residents are at least somewhat likely to plant a garden in the next two years, but few foresee major changes such as replacing furnaces or water heaters

### Likelihood of home improvements in next two years – Lake Wilcox

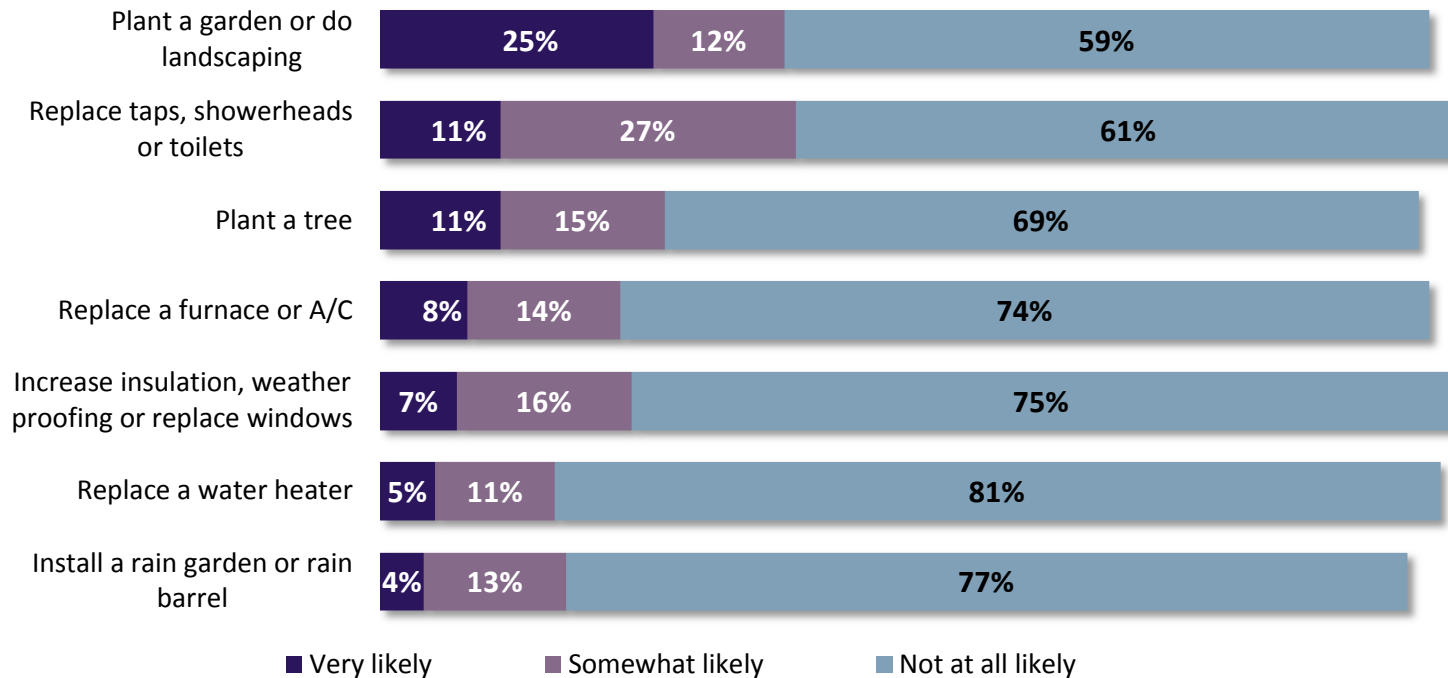


Looking ahead, three in ten (31%) Lake Wilcox residents say that it is very likely that they will plant a garden or do landscaping in the next two years, while two in ten (19%) are very likely to plant a tree. One in ten or fewer say it is very likely that they will make improvements such as replacing plumbing features, increasing weather proofing, replacing water heaters or installing new heating or cooling systems.

8. Please tell me if you are very likely, somewhat likely or not at all likely to complete each of the following home improvements within the next 2 years?

# The majority of County Court residents say it is unlikely they will make any major improvements to their home in the next two years

## Likelihood of home improvements in next 2 years – County Court

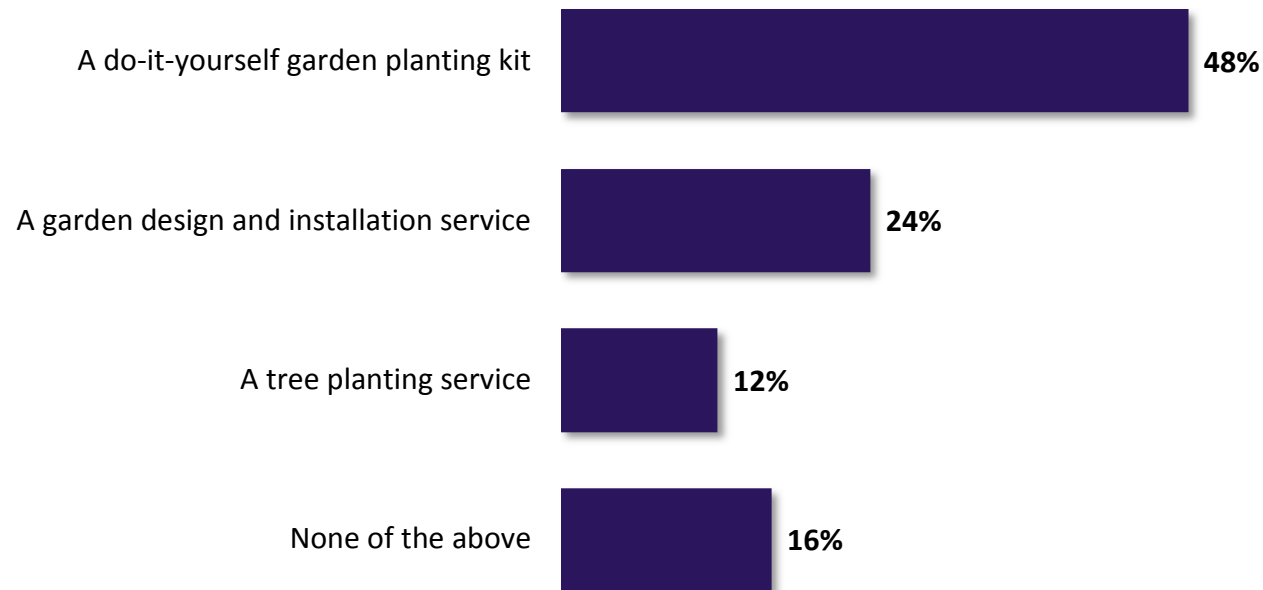


In County Court, one in four (25%) residents say it is very likely they will plant a garden or do landscaping in the next two years, while one in ten each (11%) are likely to replace plumbing fixtures or plant a tree. Larger home improvements such as replacing a furnace or AC, increasing weather proofing or installing a new water heater are less likely. Only four percent of residents say it is very likely that they will install a rain barrel.

8. Please tell me if you are very likely, somewhat likely or not at all likely to complete each of the following home improvements within the next 2 years?

# The most appealing service of the SNAP Program for Lake Wilcox residents is a do-it-yourself garden planting kit

## Most appealing service of SNAP program – Lake Wilcox

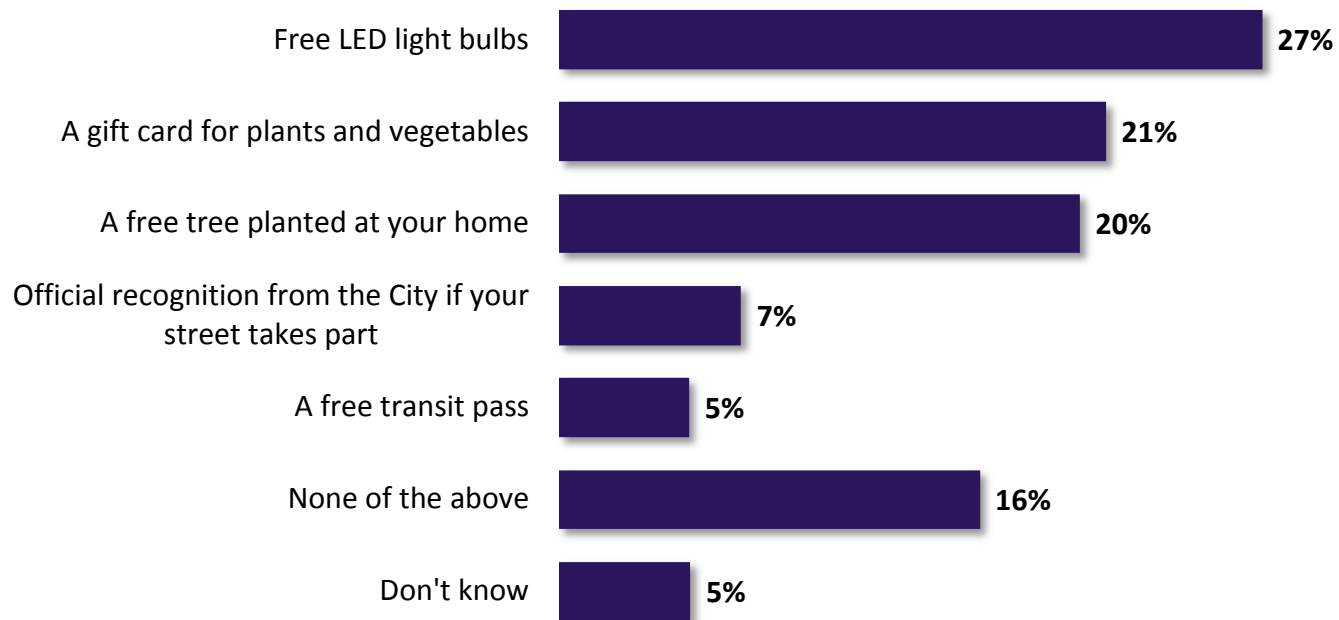


Residents of Lake Wilcox were asked which of the services that the SNAP Program provides would be most appealing to them. The service selected most frequently, by half of residents (48%) is a do-it-yourself garden planting kit. One in four (24%) find a complete garden design and installation to be most appealing, while one in ten (12%) would prefer tree planting. Sixteen percent of residents do not find any of those offerings appealing. Residents aged 60 and older are more likely to say that they do not find any of those services appealing.

9. The SNAP Eco landscaping Program offers services to residents in order to encourage environmentally friendly home improvements. Which of the following services is most appealing to you?

# County Court residents see free LED bulbs, gift cards for plants and vegetables and a free tree as the most appealing incentives for participation

## Most appealing incentive for participation in SNAP program – County Court



County Court residents were asked what incentives would most encourage them to take part in their local SNAP Program. While there is no one clear favourite, one in four (27%) think that free LED light bulbs are most appealing, while two in ten each think that a gift card for plants and vegetables (21%) or a free tree (20%) would be the best incentive. Official recognition from the City, or a free transit pass are the least preferred incentives, while 16 percent, say none of the options appeal to them.

10. The SNAP Green Home Program offers incentives to residents to encourage environmentally friendly home improvements. Which of the following incentives appeals most to you?

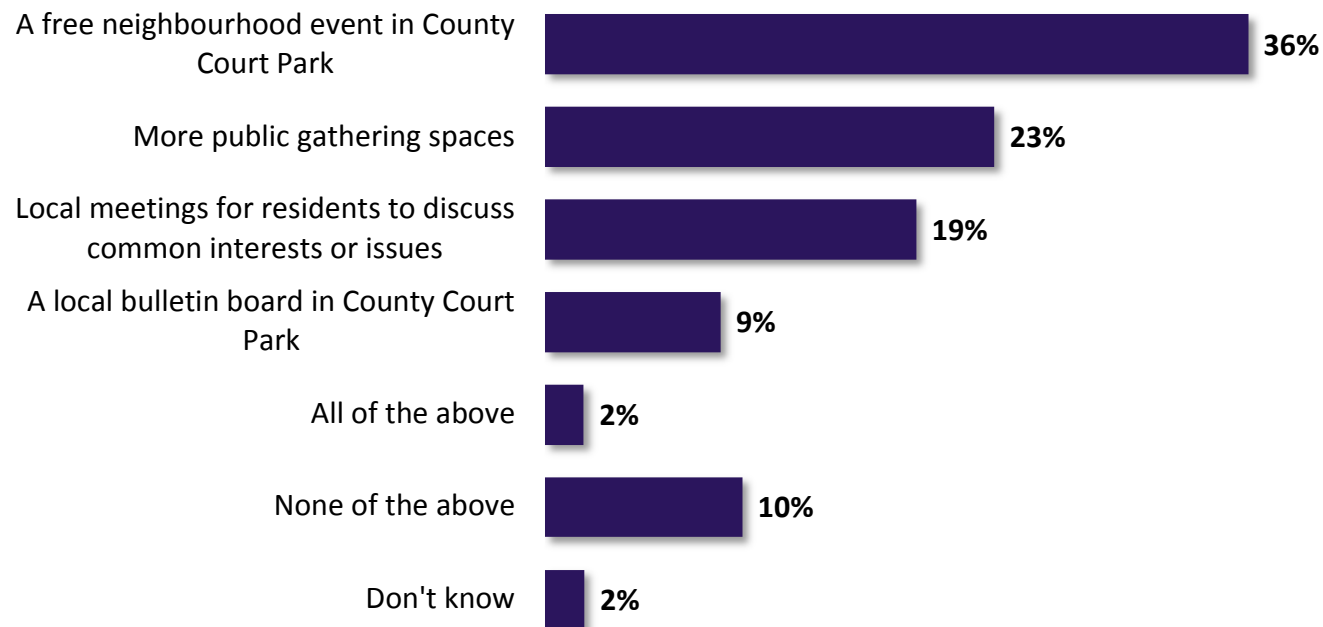
---

# Community building



# Free events and more public spaces are what County Court residents see as most likely to help build a sense of community

## Community building activities – County Court

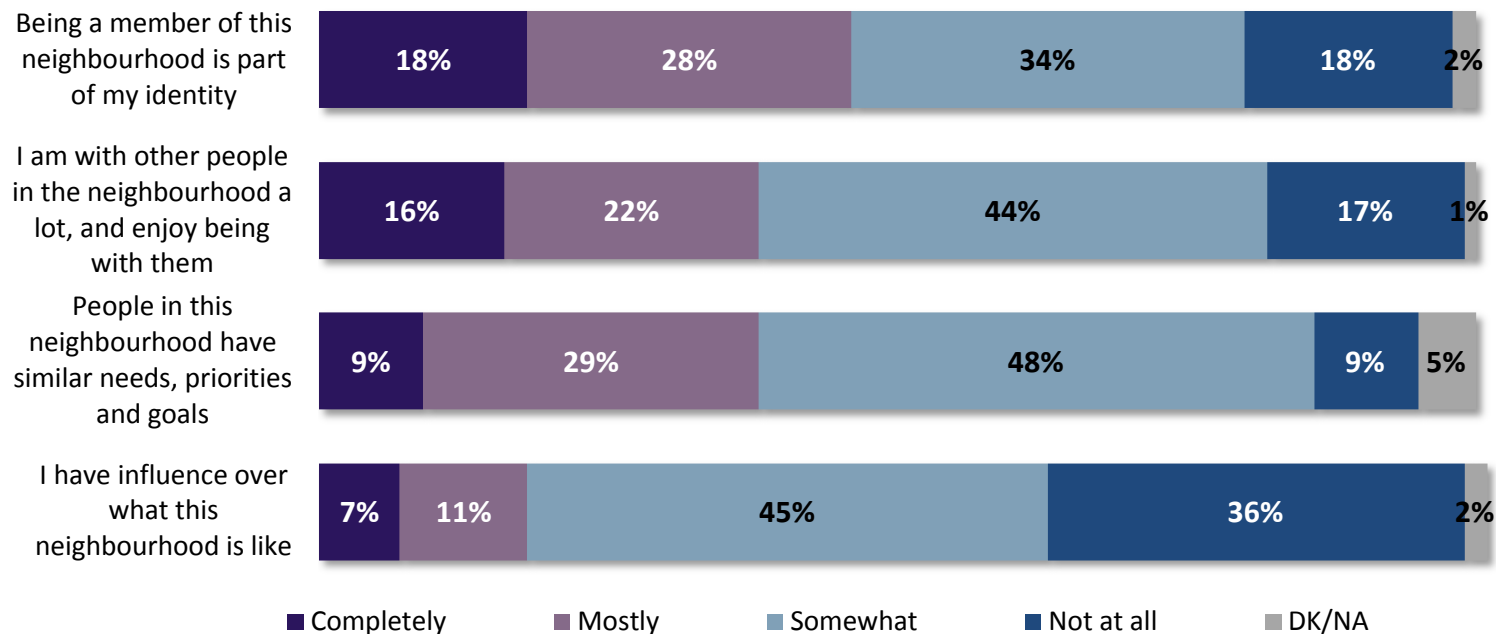


In order to build a greater sense of community among in County Court, residents were asked which activities they felt would be most useful. The top response, a free event in County Court Park is preferred by one in three (36%) residents. Other activities selected by two in ten each are more public gathering spaces (23%), and local meetings for residents to discuss local interests and issues (19%). One in ten (10%), find none of the activities appealing.

11. Which of the following activities do you think would most help to build a sense of community in your neighbourhood?

# Lake Wilcox residents generally agree that their neighbourhood is part of their identity, but not that they have influence over it

## Sense of community – Lake Wilcox

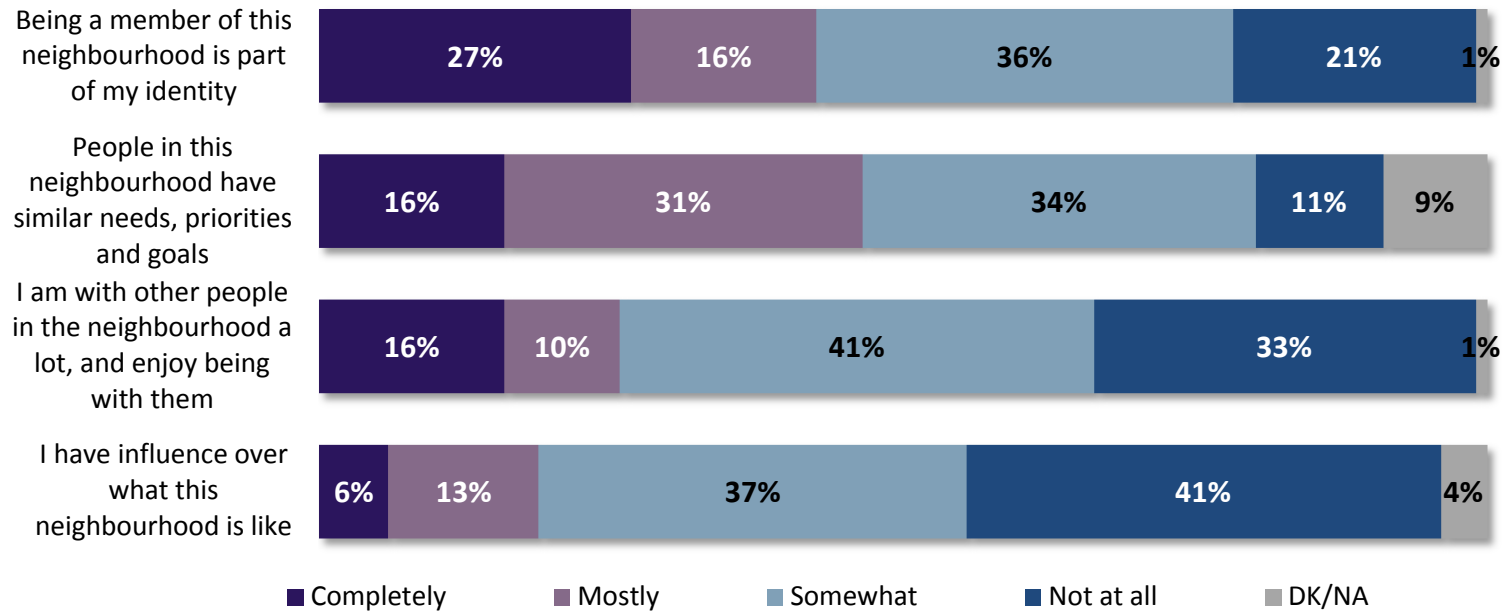


Residents were asked the extent to which they agree with a series of statements related to the sense of community they feel. While complete agreement with all statements is low, nearly half of residents (46%) completely or mostly agree that being a member of the Lake Wilcox community is part of their identity. Four in ten each (38%) completely or mostly agree that they enjoy being with people in their neighbourhood, and that people share similar needs and goals. Strong agreement is lowest that residents have influence over what their neighbourhood is like (18% completely or mostly agree).

12. Please tell me if you agree not at all, somewhat, mostly or completely with the following statements about Lake Wilcox?

# County Court residents have a similar sense of community compared to Lake Wilcox, but are more likely to agree that their neighbours share priorities and goals

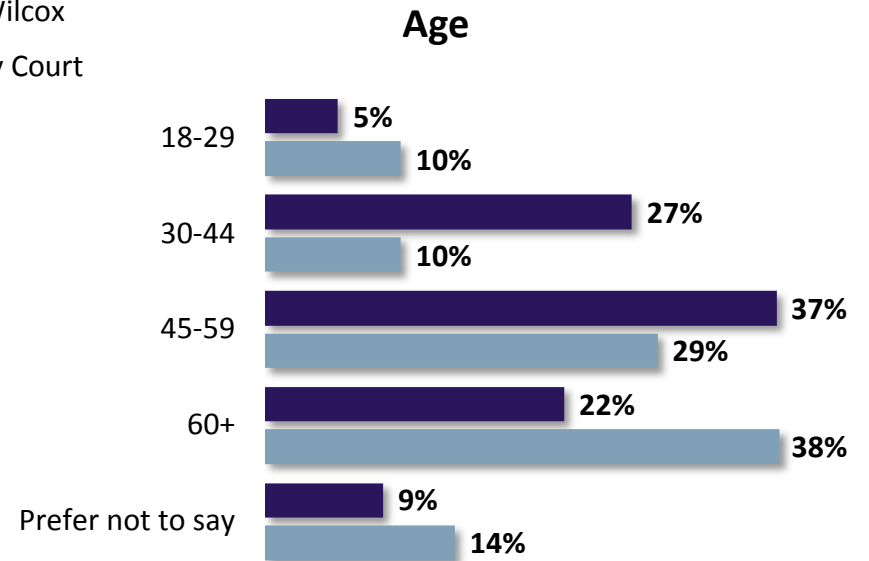
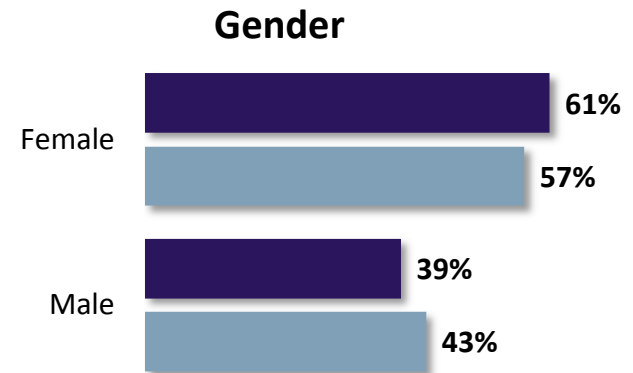
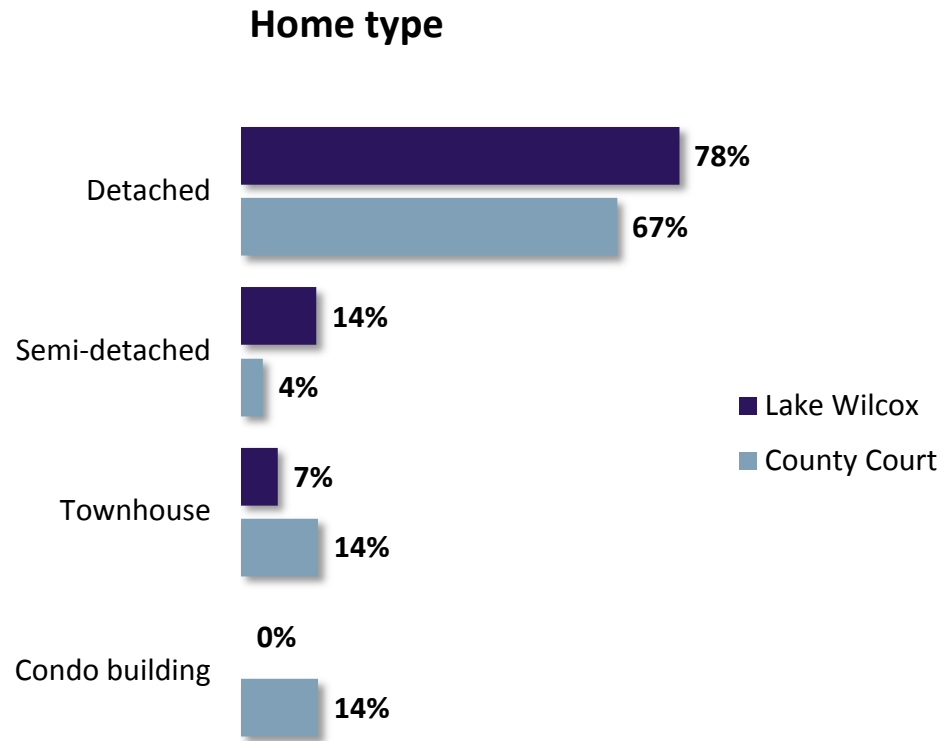
## Sense of community – County Court



In County Court, residents are more likely to completely agree that being a member of the community is part of their identity, and have strong agreement with the statement that people in the neighbourhood share similar needs, priorities and goals. Compared to Lake Wilcox, County Court residents are less likely to agree completely or mostly that they are with their neighbours often, and enjoy their company (26% in County Court, compared to 38% in Lake Wilcox). Residents of County Court are also unlikely to feel strongly that they have influence over the direction of their neighbourhood.

12. Please tell me if you agree not at all, somewhat, mostly or completely with the following statements about Lake Wilcox?

# Respondent profile



# Methodology

---

- This report presents the results of a telephone survey conducted among 302 residents of Lake Wilcox and 101 residents of County Court, from December 8 to 18, 2014.
- In this report, results are expressed as percentages. Results may not add to 100% due to rounding or multiple responses.

**Appendix D: Eco-Landscaping Elements Implemented as part of the SNAP and Partner Programs**

Year	Program Participation Notes	Address	Percent Front or Back Lawn Eco-Landscaped	Rain Barrels Installed	Rain Barrel Capacity (total litres)	Rain Garden Installed	Soak-Away installed	Aqua Blocks	Permeable Paving	# of Plants	# of Shrubs	# of trees
2012	Front yard makeover	95 Wheelwright Dr.	100	1	500	Y	Y	Y	Y	23	7	1
2012	Front yard makeover	20 Wheatsheaf St.	100	1	375	Y	Y	Y	Y	108	7	0
2012	LEAF Tree, Shrub, Plant Kit Sales	General-Neigh. Wide	N/A							0	11	16
2012	*Richmond Hill Healthy Yard Kit Sales	General-Neigh. Wide	N/A							522	29	29
2013	Street party planting	5 Headwater Cres.	100	0		N	N	N	N	14	5	0
2013	Street party planting	18 Wheatsheaf St.	100	0		N	Y	N	N	38	14	2
2013	Street party planting	98 Barnwood Dr.	50	0		N	N	N	N	25	1	1
2013	Street party planting	65 Dovetail Dr.	100	0		N	N	N	N	28	7	0
2013	LEAF Tree, Shrub, Plant Kit Sales	General-Neigh. Wide	N/A							0	5	12
2013	Richmond Hill Healthy Yard Kit Sales	General-Neigh. Wide	N/A							504	18	18
2014	School B-fly Garden - Bond Lake PS	245 Old Colony Rd.	N/A			N	N	N	N	52	4	0
2014	School B-Fly Garden - Lake Wilcox PS	80 Wildwood Ave.	N/A			N	N	N	N	52	4	0
2014	Landscape Design Grant	7 Lakeside Cres.	100	1	220	Y	Y	N	N	22	11	4
2014	Landscape Design grant	56 Dovetail Dr.	100	2	440	N	N	N	Y	26	0	0
2014	LEAF Tree, Shrub, Plant Kit Sales	General-Neigh. Wide	N/A							0	3	9
2014	Richmond Hill Healthy Yard Kit Sales	General-Neigh. Wide	N/A							486	27	27
	<b>TOTAL</b>			<b>5</b>	<b>1535</b>	<b>3</b>	<b>4</b>	<b>2</b>	<b>3</b>	<b>1900</b>	<b>153</b>	<b>119</b>

\*Healthy Yard kits based on small kit: 2 Trees/shrubs & 18 wildflowers (1 tree & 1 shrub/kit were used)

\*\* Eco-landscape projects underway