

# York Region Subwatershed Implementation Plan

2013 to 2017



*An Action Plan for the Implementation of the East Holland River, West Holland River, Black River  
and Maskinonge River Subwatershed Plans, prepared for York Region.*



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**February 2013**





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## **BACKGROUND**

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In 2007, the Lake Simcoe Region Conservation Authority (LSRCA) in partnership with York Region and its local municipalities developed subwatershed plans for the four subwatersheds (Black River, East Holland River, West Holland River and Maskinonge River) located predominantly in the York Region portion of the Lake Simcoe basin. These plans provided detailed characterization of the subwatersheds including the identification of the water quality, water quantity and ecosystem issues that should be addressed to improve the environmental health of these subwatersheds and Lake Simcoe. This included the identification of 147 specific recommendations to address those issues.

LSRCA and its partners have finite resources and determined that it would be inefficient and impractical to attempt to implement all 147 recommendations immediately. Consequently it was decided that the recommendations would be prioritized and effort would be focused on those that could be reasonably achieved in a timely manner with the resources available to LSRCA, York Region and its partner municipalities, and which represent the best returns on effort expended.

In order to accomplish this, each of the 147 recommendations were closely examined with a view to developing a more succinct and focused approach that could be accomplished in an initial five-year implementation period. As part of this process the following specific steps were taken.

### **Step 1- Prioritize the Recommendations**

The full list of 147 recommendations were prioritized, and grouped into six broad categories:

Category 1A – Highest Priority for Action

Category 1B – Second Highest Priority for Action

Category 2A- Medium Priority –Low Cost

Category 2B – Medium Priority – High Cost

Category 3 - Low Priority

Category 4 – Responsibility Assigned to Others (i.e. not LSRCA)

Category 5- Actions Completed or Nearly Completed

Based on this ranking it was decided that over the next several years LSRCA would work with its partners to implement the 67 high priority recommendations falling into categories 1A (35 recommendations), 1B (20 recommendations) and 2A (12 recommendations).

## **Step 2- Identify Implementation Themes and Sub-themes**

LSRCA and its partners then grouped the highest priority recommendations into eight themes and 21 sub-themes that relate to specific program areas already being carried out by LSRCA and/or its partners. This made it easier to relate the specific recommendation to the activities or programs normally carried out by the agencies responsible for the implementation of the subwatershed plans

The Themes and Sub-themes are:

### **Theme 1: Urban Areas and Stormwater Management**

Sub-theme 1-1: Increasing use of Low Impact Development solutions

Sub-theme 1-2: Improving efficacy of conventional stormwater facilities

Sub-theme 1-3: Improving construction and road development practices

Sub-theme 1-4: Natural channel design

### **Theme 2: Planning, Development and Enforcement Processes**

### **Theme 3: LSRCA/Municipal Operations**

Sub-theme 3-1: Improving property management

Sub-theme 3-2: Reducing salt use

Sub-theme 3-3: Improving ditches management

### **Theme 4: Stewardship**

Sub-theme 4-1: Enhancing the processes and funding that support stewardship

Sub-theme 4-2: Stewardship and restoration of aquatic ecosystems

Sub-theme 4-3: Stewardship and restoration of terrestrial ecosystems

Sub-theme 4-4: Pursuing opportunities for urban stormwater retrofits

### **Theme 5: Natural Heritage**

Sub-theme 5-1: Protecting and restoring natural heritage features through stewardship and securement

Sub-theme 5-2: Protecting and restoring natural heritage features through planning and development

Sub-theme 5-3: Developing the tools and resources to support protection and restoration

### **Theme 6: Agricultural and Rural Land Use**

Sub-theme 6-1: Processes and funding to protect the environmental health of rural landscapes



- Sub-theme 6-2: Preserving water quantity
- Sub-theme 6-3: Dealing with dust and atmospheric deposition

**Theme 7: Communication**

- Sub-theme 7-1: Promoting stewardship to increase uptake
- Sub-theme 7-2: Improving reporting of data collected

**Theme 8: Monitoring**

- Sub-theme 8-1: Monitoring watershed health
- Sub-theme 8-2: Assessing stewardship effectiveness

**Step 3- Identify Specific Activities, Measures of Success, Responsibilities, Milestones, and Resources Needed Over a Five Year Time Frame**

For each theme, the relevant recommendations were identified and linkages and relationships to other themes were articulated. For each sub-theme, LSRCA defined the relevant recommendations and identified specific activities, success measures, implementation responsibilities, and target completion dates. These represent the specific actions needed to carry out the intent and direction of the recommendation within the identified theme. They have been expressed in a way that specific expectations, timelines, and ways to assess success can be identified and measured. This will allow the LSRCA and its partners to make decisions in terms of the allocation of staff and funds to complete specific tasks that will lead to the ultimate implementation of the high priority recommendation in a five year period.

Although all of the activities identified in this implementation plan have been identified as being the responsibility of one or more government agency, it is important to recognize the critical role that watershed businesses and residents play in protecting and restoring the health of the watershed. As such, many of the activities identified in this subwatershed plan are aimed at engaging and fostering public actions, including focused outreach to members of the agricultural, aggregate resource, and snow removal sectors (under sub-themes 3-2, 6-1 and 6-3), and sharing stewardship prioritization tools and other resources with groups already active in grassroots environmental action, through the Lake Simcoe Stewardship Network (as described in sub-themes 4-1, 4-3, 5-3, and 7-1). Increased awareness and engagement in the public, more broadly speaking, will be pursued through the establishment of stewardship and LID demonstration sites on public land (sub-themes 1-1 and 3-1), an improved web presence to share information about the health of the watershed and opportunities to become engaged (sub-themes 7-1, 7-2, and 8-2), and a study examining the barriers to more wide-spread uptake of private-land stewardship programs already in existence (sub-theme 7-1).

It is recognized that many of the undertakings in the following set of recommendations are dependent on funding from all levels of government and, as such, are vulnerable to funding cutbacks. Should such cutbacks occur, it may affect the ability of the partners to achieve these recommendations.

It is also recognized that other vehicles may exist to advance these recommendations that the authors weren't aware of at the time of writing. Where such exist, the actions identified in this plan will be modified as necessary to avoid duplication. For example, if committees already exist which can address some of the needs identified in this Implementation Plan, those committees will be engaged, rather than striking new ones.

## GOVERNANCE OF IMPLEMENTATION PLANS

The mere development of an implementation plan is no guarantee that the actions proposed in the four York Region subwatershed plans will actually be carried out. To ensure implementation does proceed, York Region, LSRCA, and their partners need to establish a governance framework that helps coordinate and report on the implementation of the recommendations and actions identified in this implementation plan.

As outlined in Tables A and B below, LSRCA has identified a number of specific actions that will provide a framework for overseeing the long-term implementation of the recommendations of the four subwatershed plans

<b>Table A: Enhanced coordination of activities necessary to improve the health of York Region's subwatersheds</b>			
<b>Activity</b>	<b>Measure of success</b>	<b>Lead agency (collaborating agency)</b>	<b>Target deadline</b>
Strike implementation working group and invite key stakeholders to participate	Invitations sent	LSRCA (MOE, MNR, MAFRA, York Region, local municipalities)	2013
Develop Terms of Reference to identify scope, membership, and meeting frequency	Terms of Reference developed and endorsed by members of working group	LSRCA (implementation working group)	2013
Meet periodically to provide updates on status of implementation of subwatershed plans, and develop annual report	Meetings held. Annual report completed	LSRCA (implementation working group)	ongoing
Share annual reports with watershed municipal councils and CAOs, MPPs, MPs, Lake Simcoe Stewardship Network, Lake Simcoe Science Committee, Lake Simcoe Coordinating Committee, and other interested stakeholders	Report shared. Partners aware of work being done and accomplishments achieved to improve the health of York Region's subwatersheds	LSRCA (implementation working group)	ongoing

**Table B: Ensuring the York Region subwatershed plans remain current**

<b>Activity</b>	<b>Measure of success</b>	<b>Lead agency (collaborating agency)</b>	<b>Target deadline</b>
Review monitoring data on the state of the subwatershed, and implementation reporting. Revise subwatershed plans using “state-pressure-response” model, in context of that review	Subwatershed plans updated	LSRCA (MOE, MNR, York Region, local municipalities)	2015
Conduct gap analysis of policies and programs in place to address watershed stressors. Develop recommendations to address policy gaps	Suite of subwatershed recommendations developed	LSRCA (MOE, MNR, York Region, local municipalities)	2015
Develop implementation plan to implement priority recommendations	Implementation plans developed and approved by LSRCA Board	LSRCA (MOE, MNR, York Region, local municipalities)	2015

## THEME 1- URBAN AREAS AND STORMWATER MANAGEMENT

This theme was defined for the development and implementation of stormwater management plans and practices within urban areas. It represents the major vehicle for the planning, development, design, and construction of SWM works within urban areas throughout the subwatersheds.

Recommendations in relation to SWM typically fall into one of four sub-themes; these being:

- Sub-theme 1-1: Increasing use of Low Impact Development solutions to stormwater management
- Sub-theme 1-2: Improving efficacy of conventional stormwater management facilities (e.g. stormwater ponds)
- Sub-theme 1-3: Improving construction and road development practices
- Sub-theme 1-4: Working towards natural channel design

Table 1 illustrates which priority recommendations are in the four sub-themes

<b>Table 1: High priority recommendations related to urban areas and stormwater management</b>
<b>Sub-theme 1-1: Low Impact Development</b>
<i>A.2.1 That the partner municipalities, through the LSRCA, create a roundtable (or multiple groups, as appropriate) made up of municipalities, OMAFRA, MOE, OFA, BILD and related landowner representatives and other stakeholders, or through existing frameworks such as the Lake Simcoe Phosphorus Reduction Strategy, to determine cooperative ways of implementing phosphorus reduction measures in York Region’s subwatersheds within the Lake Simcoe basin (or at another scale that is deemed appropriate) and to develop an ‘action plan’ for their implementation within the subwatershed’s urban and rural areas.</i>
<i>A.3.1 That the partner municipalities recognize that the objectives of maintaining water recharge and minimizing the impact of impervious surfaces can be achieved by maintaining the water balance on a development site or improving site conditions. However, this will require the development industry to use innovative solutions for future growth to meet this recommendation. In addition, the municipalities, in conjunction with LSRCA, will continue to research methods of maintaining pre- and post-development water balance in the subwatersheds</i>
<i>A.3.2 That, where appropriate, the partner municipalities will ensure that the amount of impervious cover in new developments in the East Holland subwatershed is kept to a minimum through the required use of new technologies</i>
<i>A.3.3 That the partner municipalities adopt Low Impact Development (LID) practices for new developments throughout the Lake Simcoe watershed to further mitigate the impacts of urban development</i>

*B.1.3 That the municipalities of the subwatersheds are encouraged to work with the LSRCA to promote the increased use of innovative solutions to address stormwater management and retrofits such as requiring enhanced street sweeping and catch basin maintenance, particularly in those areas currently lacking stormwater controls; improving or restoring vegetation in riparian areas; rainwater harvesting; construction of rooftop storage and/or green roofs; the use of bioretention areas and vegetated ditches along roadways; where conditions permit, the use of soakaway pits, infiltration galleries, and permeable pavement; the on-going inventory, installation and proper maintenance of oil grit/hydrodynamic separators combined with the use of technologies to enhance their effectiveness where this is appropriate; and, where practical and feasible, enhance measures to control TSS*

*C.2.1 That the LSRCA and the partner municipalities, as part of the implementation of the Lake Simcoe Phosphorus Reduction Strategy, ensure that the development industry maximizes the infiltration of stormwater where conditions permit, through the use of but not limited to the following: construction of rooftop storage and/or green roofs; the use of cisterns to store water; the use of bioretention areas and vegetated ditches along roadways; the use of soakaway pits, infiltration galleries, and permeable pavement*

*D.2.1 That the LSRCA and its partners identify/review sites where reduction of discharge to streams has occurred and look for opportunities, through development, to potentially reuse, restore/retrofit a source of water for that specific part of the system*

*H.3.1 That the LSRCA promote enhanced relationships between all sectors to work towards the goal of more sustainable development*

#### **Sub-theme 1-2: Conventional stormwater**

*B.1.1 That the LSRCA continue to undertake the completion of stormwater retrofit projects in partnership with municipalities, subject to budget allocations. Further that the federal and provincial governments throughout the watershed be requested to share in the cost of undertaking these projects*

*B.1.2 That the LSRCA and its partners recognize that while the construction and/or retrofit of quality control facilities is extremely important, quantity control is also an important consideration in some areas of the subwatershed; therefore, quantity control facilities should be constructed in those areas where it is deemed appropriate but it is not possible to construct a full quantity/quality control facility.*

#### **Sub-theme 1-3: Construction and road development practices**

*E.3.2 That the partner municipalities work with the LSRCA, the development industry, and contractors collectively prepare a construction practices code, including a real-time database system, that will track the use, maintenance and effectiveness of activities including but not limited to: the phased stripping of land, the use of dust suppressants, the control of runoff and sediment movement across the site, the design and use of temporary sediment basins, the on-site protection of existing natural features, the acceptable storage of topsoil and overburden materials, acceptable de-watering techniques, the populating of the database, and enforcement of this 'code'/bylaw(Note this recommendation found in East Holland subwatershed only)*

#### **Sub-theme 1-4: Natural channel design**

*B.3.1 That all channel alterations and realignments will undertake natural channel design and stream restoration where possible, to mimic to the extent possible, natural conditions, in accordance with the Ontario Regulation 179/06 under the Conservation Authorities Act and LSRCA's Watershed Development policies*

*B.3.2 That LSRCA encourage the use of natural solutions and work with proponents to develop a balance between engineered solutions and natural solutions with the goal of minimizing erosion potential when structures require replacement*

*F.1.13 That the LSRCA continue to work with owners of recently documented channelized reaches of stream to develop priority list and implement solutions, such as Natural Channel Design*

#### **Linkages**

Recommendations that address urban areas and stormwater management are also being addressed under Theme 4 (**Stewardship**).

Since these recommendations were written, the LSRCA has developed, as a requirement of the LSPP, Comprehensive Stormwater Management Guidelines. These guidelines, and the legislative requirements for municipalities to develop stormwater management master plans, provide a framework for implementing sub-them 1-1 (LID) and 1-2 (conventional stormwater). The following proposed actions are provided in context of the guidelines. At present there is no system in place to facilitate coordination of efforts and ideas in regards to development of the stormwater management master plans. It was proposed at the implementation workshop held with LSRCA's municipal partners in December 2011 that ad hoc meetings be held periodically to help coordination, knowledge sharing, and monitoring progress of both the SWP plans and implementing the recommendations related to Low Impact Development.

### Sub-theme 1-1 - Increasing use of Low Impact Development solutions

The prioritization exercise resulted in eight recommendations that overall had the similar objective of increasing the use of Low Impact Development solutions for urban development and redevelopment. As the overall objectives of these recommendations are similar, they can be implemented through the use of the same set of actions. That being said, during implementation of this theme it is important to check that specific requirements within the individual recommendations are met. The following table summarizes activities, milestones, and resources needed to progress the recommendations under this theme.

<b>Table 1-1: Increasing use of Low Impact Development solutions</b>			
<b>Activity</b>	<b>Measure of success</b>	<b>Lead agency (collaborating agency)</b>	<b>Target deadline</b>
Create a working group to advance LID use across the subwatersheds.	Working group established. Education and outreach provided to the BILD community	LSRCA (MOE, MNR, , interested industry groups, professional organizations, and municipalities)	2013
Refine the draft “ <i>Low Impact Development Discussion Paper</i> ” developed by LSRCA, TRCA and CVC, in consultation with municipalities	Municipal support for the content of the “ <i>Low Impact Development Discussion Paper</i> ” provided	LSRCA (Regional and local municipalities)	2013
Submit refined discussion paper to MOE, and seek their support for standards associated with advancing LID	Discussion paper submitted to MOE. Standards developed.	LSRCA (interested municipalities)	2013
Based on results of the LID discussion paper, and response from MOE, develop recommendations to address barriers to LID implementation	Effective recommendations developed and shared with MOE	LSRCA (interested municipalities)	2013



<b>Table 1-1: Increasing use of Low Impact Development solutions</b>			
<b>Activity</b>	<b>Measure of success</b>	<b>Lead agency (collaborating agency)</b>	<b>Target deadline</b>
Development of funding strategy for submission to the federal and provincial governments to address LID barriers	Funding strategy developed and submitted. Federal and provincial funding to support the implementation of LIDs secured	LSRCA (interested municipalities)	2013
Pursue opportunities to incorporate LID projects as urban redevelopment occurs	LID projects implemented as opportunities arise	Subwatershed municipalities	Ongoing
Undertake pilot LID projects to showcase innovation, monitor efficacy, and for educational purposes	Completion of at least 12 LID pilot projects, associated awareness program developed, and monitoring report completed.	Interested municipalities (MOE, LSRCA)	2017
Provide training courses and/or workshops on the design and construction of LID approaches	Workshops developed and provided	LSRCA (LID working group)	2017
Incorporate LID as a tool in municipal stormwater master plans, pending results of monitoring studies	LID mainstreamed as a tool to manage urban stormwater	Interested municipalities (MOE, LSRCA)	2017

### **Sub-theme 1-2 - Improving efficacy of conventional stormwater facilities**

The prioritization exercise resulted in two recommendations that had similar objectives of improving efficacy of conventional stormwater facilities, and therefore the same set of actions can be used to implement these recommendations. As a requirement of the LSPP, municipalities have to prepare and implement stormwater management master plans for each settlement area within the Lake Simcoe watershed. Preparation of these plans, following the guidelines prepared by LSRCA, and their subsequent implementation should result in implementation of the two recommendations. It is proposed that implementation of the stormwater master plans be facilitated, through the sharing of information between municipalities, and with the LSRCA and MOE, and monitored through an implementation working group.

### Sub-theme 1-3 - Improving construction and road development practices

Only one prioritized recommendation related to improving construction code of practices.

<b>Table 1-3: Improving construction and road development practices</b>			
<b>Activity</b>	<b>Measure of success</b>	<b>Lead (collaborating) agency</b>	<b>Target deadline</b>
Conduct a review of best practices in use in the Lake Simcoe watershed and other jurisdictions, including the identification of ineffective measures and barriers to uptake, including funding limitations	Review complete and report written	LSRCA (York Region, local municipalities, MOE, MNR, interested members of industry and professional organizations)	2013
Develop a draft best management practices guide	Draft guide developed	LSRCA (York Region, local municipalities, MOE, MNR, interested members of industry and professional organizations)	2013
Consult on the draft guide, with municipal and industry stakeholders, and incorporate necessary revisions in final document	Consultation completed and best practices guide finalized	LSRCA (local municipalities, MOE, MNR, interested members of industry and professional organizations)	2013
Raise awareness of best practices guide in the construction industry and begin implementation of best practices	Best practices implemented and mainstreamed	Local municipalities	2014
Develop funding model to ensure sufficient resources are available to undertake monitoring and reporting activities, as identified	Sufficient resources to provide programs are secured	Local municipalities	2014
Monitor and report on implementation of best practices on an annual basis	Annual reports completed, and made available to municipal councils and interested members of the public	Local municipalities	Ongoing, beginning in 2015
Implement periodic update of best practices	Best practices updated and adopted, as necessary	Local municipalities	Ongoing, beginning in 2015

### Sub-theme 1-4 – Natural channel design

Three prioritized recommendations were identified related to the design and management of stream channels, to ensure they mimic the natural form and function of unimpacted watercourses wherever possible.

<b>Table 1-4: Natural channel design</b>			
<b>Activity</b>	<b>Measure of success</b>	<b>Lead (collaborating) agency</b>	<b>Target deadline</b>
Undertake a study to assess the feasibility of using the <i>Drainage Act</i> to protect natural watercourses, including meanders, pool / riffle sequences, and riparian buffers	Study complete. Direction provided on moving forward	LSRCA (MAFRA, municipal drainage superintendents, interested municipalities)	2014
Pending the results of the study, establish a pilot project in the Lake Simcoe watershed which would modify an existing drain to enhance ecological function	Pilot study established, as appropriate. Monitoring undertaken	LSRCA (MAFRA, municipal drainage superintendents, interested municipalities)	2015
Pending the results of the study, modify existing stewardship programs to provide eligibility for financial and technical support for projects that would enhance the ecological function of municipal drains	Programs revised to provide support, as appropriate	LSRCA, MNR	2015
Pending the results of the study, modify existing stewardship programs to provide eligibility for financial and technical support for projects that would manage the timing and/or quality of water discharged from agricultural tile drains	Programs revised to provide support, as appropriate	LSRCA, MNR, MAFRA	2015
Pursue opportunities to decommission or otherwise modify and naturalize municipal drains that become unnecessary as a result of development	Drains decommissioned and naturalized using the principles of natural channel design	LSRCA, (local municipalities)	As opportunities arise



## THEME 2- PLANNING, DEVELOPMENT AND ENFORCEMENT PROCESSES

Table 2 comprises 13 recommendations identified as high priority actions that could be implemented in whole or in part through adjustments or enhancements to the land use planning, development review and/or enforcement processes carried out by LSRCA, The Region and local municipalities.

<b>Table 2: High priority recommendations relating to the planning, development, and enforcement processes</b>
<i>A.3.1 That the partner municipalities recognize the objective of maintaining water quality and quantity through proper water balance analysis and reducing impervious cover. The municipality, in conjunction with LSRCA, will continue to research methods of maintaining pre- and post-development water balance in the subwatersheds.</i>
<i>A.3.3 That the partner municipalities adopt Low Impact Development (LID) practices for new development throughout the Lake Simcoe watershed to further mitigate the impacts of urban development</i>
<i>A.5.3 That the partner municipalities, in conjunction with the LSRCA develop plans to increase the percentage of natural cover in each subwatershed to 35%, or a lower percentage as determined through a feasibility study</i>
<i>A.5.6 That the LSRCA utilize its authority through the Generic Regulation (179/06) under the Conservation Authorities Act to prevent the conversion of wetlands into other land uses, such as agriculture</i>
<i>B.3.1 That all channel realignments will undertake natural channel design and stream restoration where possible, to mimic to the extent possible, natural conditions, in accordance with the Ontario Regulation 179/06 under the Conservation Authorities Act and the federal Fisheries Act</i>
<i>C.2.1 That the LSRCA and the partner municipalities, as part of the implementation of the Lake Simcoe Phosphorus Reduction Strategy, ensure that the development industry maximizes the infiltration of stormwater where conditions permit, through the use of but not limited to the following: construction of rooftop storage and/or green roofs; the use of cisterns to store water; the use of bioretention areas and vegetated ditches along roadways; the use of soakaway pits, infiltration galleries, and permeable pavement</i>
<i>D.1.2 That the LSRCA, Province of Ontario and member municipalities implement policies and actions developed from the results of the Assimilative Capacity Studies (Total Maximum Monthly Loads)</i>

<i>F.1.15 That the LSRCA continue to utilize buffer requirements and timing guidelines as part of its protection of coldwater resources and that the LSRCA undertake other programs including stormwater management upgrades and retrofits, riparian tree planting programs, and stewardship in the form of in-stream fish habitat works. These programs should be continued and enhanced into the future, with financial assistance and technical support provided by the LSRCA LEAP Program</i>
<i>F.2.2 That the LSRCA look for opportunities through development proposals and stewardship initiatives to increase streambank vegetation in all subwatershed catchments</i>
<i>F.2.3 That the lack of woodland cover in the East Holland River, West Holland River, and Maskinonge River subwatersheds be addressed by establishing a goal of increasing woodland cover to 25% (as is identified as York Region's target in the official plan) in the subwatersheds with an optimal woodland cover of 30% as identified by Environment Canada, over the next 25-30 years (2040), or to the highest percentage deemed feasible through an analysis of potential reforestation locations, recognizing that cover may vary between municipalities, and that forest cover in the Black River subwatershed be maintained at 38%</i>
<i>F.3.2 That the partner municipalities adopt policies to promote and encourage the planting of native species (particularly drought tolerant species) through development approvals and property management programs</i>
<i>F.4.5 That the LSRCA, the partner municipalities, and developers work to identify opportunities for undertaking restoration works as part of development applications (e.g. re-establishing riparian buffers, naturalizing farmed areas)</i>
<i>G.2.1 That the LSRCA and the partner municipalities promote and support water conservation</i>

### **Linkages**

Some priority recommendations identified under Theme 2 (**Planning, Development, and Enforcement Processes**) are also addressed under Theme 1 (**Urban Areas and Stormwater Management**) and Theme 4 (**Stewardship**). In both cases, actions related to establishing a supportive policy framework are addressed under this theme, and activities related to implementing tangible changes on the ground are addressed in Themes 1 and 4.

Additional recommendations under management Sub-theme 5-2 (**Protecting and restoring natural heritage features through planning and development**) should also be achieved through the implementation of activities identified in Table 2.1.

Despite the wide range of recommendations related to planning, development and enforcement issues, the municipal planning process as defined under the *Planning Act*, the *Municipal Act* and permitting process established under the *Conservation Authorities Act* simplifies the actions necessary to achieve these goals

**Table 2-1: Enhancing the planning, development, and enforcement processes**

Activity	Measure of success	Lead agency (collaborating agency)	Target deadline
Develop draft policies for consideration in municipal Official Plan updates, Secondary Plans, and Community Improvement Plans to ensure consistency with the York Region subwatershed plans' compiled recommendations	Draft policies completed and endorsed by regional and local municipalities. Municipal Official Plans, Secondary Plans, and Community Improvement Plans come into consistency with subwatershed plans	York Region and local municipalities (LSRCA, MMAH)	Prior to first scheduled update of Municipal Official Plans, or development of Secondary Plans or Community Improvement Plans, after subwatershed plan approval
Review LSRCA planning and development policies and guidelines to ensure consistent with recommendations of the York Region subwatershed plans	Watershed planning and development policies and guidelines updated, as necessary	LSRCA	2013
Develop protocol for monitoring and/or auditing permits provided under O. Reg. 179/06	Process of permit monitoring implemented	LSRCA	2013





## THEME 3- LSRCA/MUNICIPAL OPERATIONS

The following 14 recommendations identified as high priority can be implemented in whole or in part through adjustments and/or enhancements to the way LSRCA, the Region, local municipalities, or other public or utility agencies manage property or infrastructure owned by them and/or carry out their daily operations. High priority recommendations within this theme typically fall into one of three sub-themes, being:

- Sub-theme 3-1: Improving property management
- Sub-theme 3-2: Reducing salt use
- Sub-theme 3-3: Improving ditches management

<b>Table 3: High priority recommendations relating to LSRCA / municipal operations</b>
<b>Sub-theme 3-1: Improving property management</b>
<i>A.3.2 That, where appropriate, the partner municipalities will ensure that the amount of impervious cover in new developments in the East Holland River subwatershed is kept to a minimum through the required use of new technologies</i>
<i>A.5.3 That the partner municipalities, in conjunction with the LSRCA, develop plans to increase the percentage of natural cover in each subwatershed to 35%, or a lower percentage as determined through a feasibility study</i>
<i>C.3.1 That the LSRCA and partner municipalities promote the adoption of sustainable site alteration and construction practices in the Lake Simcoe watershed, potentially through the use of grading permits</i>
<i>C.4.6 That the LSRCA work with its member municipalities to enhance efforts to reduce the input of sediments and contaminants into Lake Simcoe and its tributaries through activities including stormwater management, and the protection and enhancement of riparian buffers</i>
<i>G.2.1 That the LSRCA and the partner municipalities promote and support water conservation</i>
<i>D.1.9 That the LSRCA combine the findings of Phases I and II of the Best Management Practices Inventory with the GIS exercise that was undertaken to determine the amount of natural cover within 30 metres of the watercourses in the subwatershed to develop an implementation plan to restore naturally vegetated buffers within the subwatersheds</i>
<i>F.2.4 That the LSRCA identify opportunities for restoration, enhancement, and securement of priority sites to support the needs of the Natural Heritage System for Lake Simcoe as it relates to the East Holland River subwatershed; specific to the subwatershed, woodlands restoration efforts should focus on enhancing the 'Big Woods' area to enhance its function</i>

<i>F.2.7 In that the East Holland River subwatershed contains 20% of the grasslands in the Lake Simcoe watershed, that the LSRCA, in cooperation with the partner municipalities and related partners, develop a plan that will identify (and plan for) opportunities to increase the amount and improve the quality of native grassland communities through development proposals, and restoration and enhancement policies and strategies within the East Holland River subwatershed</i>
<i>F.4.4 That the LSRCA work with its municipal partners to investigate efforts that could be made to improve public properties for long term environmental benefit and sustainability</i>
<b>Sub-theme 3-2: Reducing salt use</b>
<i>C.4.2 That the partner municipalities in the East Holland River subwatershed adopt the Code of Practice for the Environmental Management of Road Salts (Env. Canada, 2004) as a way of dealing with increasing chloride concentrations in the East Holland River</i>
<i>C.4.3 That the partner municipalities, where feasible, consider secondary treatment (e.g. constructed wetlands) for runoff from snow dumps; and monitor the effectiveness of any such facilities</i>
<i>C.4.4 That the partner municipalities consider options for addressing the application of de-icing agents to private parking lots of a certain size (e.g. shopping malls)</i>
<i>F.4.4 That the LSRCA work with its municipal partners to investigate efforts that could be made to improve public properties for long term environmental benefit and sustainability</i>
<b>Sub-theme 3-3: Improving ditches management</b>
<i>C.2.2 That member municipalities, in consultation with LSRCA, review the practice of roadside 'ditch cleanouts' which leave existing vegetation in place to increase water infiltration, reduce ditch maintenance costs and reduce nutrient inputs into Lake Simcoe against the increases in road maintenance costs associated with imperfectly draining road beds and other liabilities; further to develop a strategy to reach a balance between environment and roads maintenance, and construction costs and public liability on adjacent lands</i>

### **Linkages**

There is significant overlap in recommendations identified in this theme and under Themes 4 (**Stewardship**) and 5 (**Natural Heritage**). In both cases, some recommendations have been included under this theme in recognition that government agencies have an opportunity (and a responsibility) to lead by example in being proper stewards of their land. Actions completed under Themes 4 and 5 may support actions undertaken under this theme, and vice versa.

### Sub-theme 3-1 – Improving property management

The prioritization exercise resulted in nine recommendations (Table 3) that related to the management of public lands, and pursuing opportunities to lead by example in improving the health of the Lake Simcoe watershed. Due to the similarity in some of these recommendations, many of them can be achieved through the same set of actions. That being said, during implementation of this theme it is important to check that specific requirements within the individual recommendations are met. The following Table 3.1 summarizes activities, milestones, and timelines to progress the recommendations under this theme.

<b>Table 3-1: Improving property management</b>			
<b>Activity</b>	<b>Measure of success</b>	<b>Lead agency (collaborating agency)</b>	<b>Target deadline</b>
Public land managers review their properties to identify opportunities to contribute to the goals of the subwatershed plan	Catalogue of opportunities developed	LSRCA, York Region, local municipalities (MNR)	2014
Develop and implement a strategy to address opportunities to improve public lands, including identifying potential funding opportunities. This strategy should focus on pilot/demonstration projects that can be used to promote BMP application elsewhere in the watershed	Strategy complete, priority stewardship and demonstration projects identified and implemented	LSRCA, York Region, local municipalities	Ongoing
Showcase pilot projects through appropriate communication approach such as watershed tours, internet, or media outreach	Complete and implement communication approaches for showcasing pilot projects	LSRCA, York Region, local municipalities	ongoing

### Sub-theme 3-2: Reducing salt use

The prioritization exercise identified four recommendations related to reducing salt use in the York Region subwatersheds. The reduction of salt application is challenging however, as salt is a necessary management tool to reduce injury to people and damage to vehicles and property related to ice and snow in the winter. Perhaps more challenging are the issues related to liability should someone be injured as a result of insufficient or inappropriate salt application. The fear of lawsuits tends to make private contractors apply more salt than necessary, and makes government agencies loath to create legal restrictions on salt applications. As such, the reduction of salt application requires a more nuanced approach, including land use planning, public education, and information sharing among salt applicators.

<b>Table 3-2: Reducing salt use</b>			
<b>Activity</b>	<b>Measure of success</b>	<b>Lead (collaborating) agency</b>	<b>Target deadline</b>
Create salt management working group to share information on salt management practices, to coordinate on public education programs, and to assist municipalities in ensuring that municipal salt management plans sufficiently protect watercourses	Working group struck, Terms of Reference developed, and periodic meetings occur	LSRCA (MOE, MNR, MTO, EC, watershed municipalities)	Ongoing, to begin in 2013
Develop and compile information on best practices for salt storage and application, and make available to the public through web access or hardcopies in municipal offices	Information compiled and made available to the public	Local municipalities (York Region)	2013
Generate list of snow removal contractors operating in York Region	List developed and made available to appropriate parties	Local municipalities (York Region)	2013
Provide outreach to companies on the above list, including copies of the salt application best practices information	Information provided to members on the list	Local municipalities (York Region)	2014

<b>Table 3-2: Reducing salt use</b>			
<b>Activity</b>	<b>Measure of success</b>	<b>Lead (collaborating) agency</b>	<b>Target deadline</b>
Require that major developments include an assessment of how changes in chloride export to nearby watercourses will be minimized	Chloride loading evaluations included in development process	Local municipalities	2014
Continue to monitor chloride concentrations and loads in Lake Simcoe and its tributaries	Monitoring continues, chloride report provided periodically to salt management working group	MOE (Lake Simcoe), LSRCA (tributaries)	Ongoing, reporting to begin in 2013

### Sub-theme 3-3: Improving ditches management

The prioritization exercise resulted in the identification of one recommendation (Table 3) related to the improvement of ditch design, construction and management. Table 3-3 identifies specific activities that can be pursued by the LSRCA and its partners to achieve the intent of that recommendation.

<b>Table 3-3: Improving ditches management</b>			
<b>Activity</b>	<b>Measure of success</b>	<b>Lead agency (collaborating agency)</b>	<b>Target deadline</b>
Conduct a review of best practices for improving the design, construction, and maintenance of municipal and roadside ditches to reduce the amount of stormwater, phosphorous, and sediments generated and transported by ditches, and develop a compendium of best practices for ditch management	Review complete and compendium developed	LSRCA (York Region, local municipalities)	2013
Review and, where appropriate, upgrade ditch design, construction, and maintenance standards to incorporate best practices	Reviews and upgrades completed	York Region and local municipalities	2014
Conduct a review and, where appropriate, upgrade the permit process under the <i>Conservation Authorities Act</i> to ensure identification and implementation of opportunities to upgrade ditch management opportunities	Review and upgrade completed	LSRCA	2014

## THEME 4- STEWARDSHIP

The stewardship of land and natural resources is one of the most important tools to improve subwatershed health, particularly in heavily settled areas like York Region. The York Region subwatershed plans identify a number of priority recommendations related to stewardship that generally fall into one of four sub-themes; these being:

- Sub-theme 4-1: Enhancing the processes and funding that support stewardship
- Sub-theme 4-2: Stewardship and restoration of aquatic ecosystems
- Sub-theme 4-3: Stewardship and restoration of terrestrial ecosystems
- Sub-theme 4-4: Pursuing opportunities for urban stormwater retrofits

Table 4 illustrates which priority recommendations are in the four sub-themes

<b>Table 4: High priority recommendations related to stewardship</b>
<b>Sub-theme 4-1: Stewardship processes and funding</b>
<i>B.2.1 That the LSRCA continue to implement programs to address rural non-point sources of pollution by providing landowners with financial and technical assistance from the federal, provincial, and municipal governments and the Lake Simcoe Conservation Foundation, to implement best management practices on their lands. Further that a review of the current level of financial incentives and eligible projects be reviewed in partnership with the agricultural and rural communities</i>
<i>B.2.2 That the LSRCA's 'Landowner Environmental Assistance Program' (LEAP) which offers technical advice and financial assistance to the residents of the Lake Simcoe watershed, continue to be supported by the municipalities and various local committees for all four subwatersheds</i>
<i>F.4.2 That the LSRCA continue to undertake stewardship initiatives throughout the Lake Simcoe watershed. Priority areas for undertaking stewardship activities may be identified through Phase 2 of LSRCA's Natural Heritage System</i>
<i>D.3.5 That the LSRCA complete and implement its Natural Heritage System Phase 2: Restoration, Enhancement and Securement Strategy</i>
<i>F.2.4 That the LSRCA identify opportunities for the restoration, enhancement and securement of priority sites to support the needs of the Natural Heritage System for Lake Simcoe as it relates to the East Holland River subwatershed; specific to the subwatershed, woodlands restoration efforts should focus on enhancing the 'Big Woods' area to enhance its function</i>

<b>Sub-theme 4-2: Aquatic ecosystem restoration</b>
<i>B.2.3 That the LSRCA work with federal, provincial, municipal governments, the Lake Simcoe Conservation Foundation and granting agencies to investigate and implement BMPs aggressively within the Lake Simcoe watershed</i>
<i>B.3.1 That all channel alterations and realignments will undertake natural channel design and stream restoration where possible, to mimic to the extent possible, natural conditions, in accordance with the Ontario Regulation 179/06 under the Conservation Authorities Act and LSRCA's Watershed Development policies</i>
<i>D.1.8 That the results from the BMP inventory should be prioritized and fed into the development of a stewardship plan for the subwatersheds in order to focus the efforts of the LSRCA and its partners and ensure the greatest possible phosphorus reduction</i>
<i>D.1.9 That the LSRCA combine the findings of Phases I and II of the Best Management Practices Inventory with the GIS exercise that was undertaken to determine the amount of natural cover within 30 metres of the watercourses in the subwatershed to develop an implementation plan to restore naturally vegetated buffers within the subwatershed</i>
<i>D.2.1 That the LSRCA and its partners identify/review sites where reduction of discharge to streams has occurred and look for opportunities, through development, to potentially reuse, restore/retrofit a source of water for that specific part of the system</i>
<i>F.1.12 That as part of the current LSRCA BMP Inventory project, in locations where channel stability is already considered to be 'low', assess those sites, develop priorities, assess the possibility of using 'new'/innovative solutions and then repair</i>
<i>F.1.13 That the LSRCA continue to work with owners of recently documented channelized reaches of stream to develop a priority list and implement solutions, such as Natural Channel Design</i>
<i>F.1.15 That the LSRCA continue to utilize buffer requirements and timing guidelines as part of its protection of coldwater resources and that the LSRCA undertake other programs including stormwater management upgrades and retrofits, riparian tree planting programs, and stewardship in the form of in-stream fish habitat works. These programs should be continued and enhanced into the future, with financial assistance and technical support provided by the LSRCA LEAP Program</i>
<b>Sub-theme 4-3: Terrestrial ecosystem restoration</b>
<i>B.2.3 That the LSRCA work with federal, provincial, municipal governments, the Lake Simcoe Conservation Foundation and granting agencies to investigate and implement BMPs aggressively within the Lake Simcoe watershed</i>



<p><i>F.2.3 That the lack of woodland cover in the East Holland River, West Holland River, and Maskinonge River subwatersheds be addressed by establishing a goal of increasing woodland cover to 25% (as is identified as York Region's target in the official plan) in the subwatersheds with an optimal woodland cover of 30% as identified by Environment Canada, over the next 25-30 years (2040), or to the highest percentage deemed feasible through an analysis of potential reforestation locations, recognizing that cover may vary between municipalities, and that forest cover in the Black River subwatershed be maintained at 38%</i></p>
<p><i>F.2.7 In that the East Holland River subwatershed contains 20% of the grasslands in the Lake Simcoe watershed, that the LSRCA in cooperation with the partner municipalities and related partner, develop a plan that will identify (and plan for) opportunities to increase the amount and improve the quality of native grassland communities through development proposals, and restoration and enhancement policies and strategies within the East Holland River subwatershed</i></p>
<p><i>F.3.2 That the partner municipalities adopt policies to promote and encourage the planting of native species (particularly drought tolerant species) through development approvals and property management programs</i></p>
<p><i>F.4.2 That the LSRCA continue to undertake stewardship initiatives throughout the Lake Simcoe watershed. Priority areas for undertaking stewardship activities maybe identified through Phase 2 of LSRCA's Natural Heritage System</i></p>
<p><b>Sub-theme 4-4: Urban stormwater retrofits</b></p>
<p><i>B.1.3 That the municipalities of the subwatershed are encouraged to work with the LSRCA to promote the increased use of innovative solutions to address stormwater management and retrofits such as requiring enhanced street sweeping and catch basin maintenance, particularly in those areas currently lacking stormwater controls; improving or restoring vegetation in riparian areas; rainwater harvesting; construction of rooftop storage and/or green roofs; the use of bioretention areas and vegetated ditches along roadways; where conditions permit, the use of soakaway pits, infiltration galleries, and permeable pavement; the on-going inventory, installation and proper maintenance of oil grit/hydrodynamic separators combined with the use of technologies to enhance their effectiveness where this is appropriate; and where practical and feasible, enhance measures to control TSS</i></p>
<p><i>B.2.3 That the LSRCA work with federal, provincial, municipal governments, the Lake Simcoe Conservation Foundation, and granting agencies to investigate and implement BMPs aggressively within the Lake Simcoe watershed</i></p>
<p><i>C.2.1 That the LSRCA and the partner municipalities, as part of the implementation of the Lake Simcoe Phosphorus Reduction Strategy, ensure that the development industry maximizes the infiltration of stormwater where conditions permit, through the use of but not limited to the following: construction of rooftop storage and/or green roofs; the use of cisterns to store water; the use of bioretention areas and vegetated ditches along roadways; the use of soakaway pits, infiltration galleries, and permeable pavement</i></p>
<p><i>D.2.3 That LSRCA, in cooperation with the partner municipalities, would support the use of rain water harvesting devices, such as cisterns, as a stormwater management option to be undertaken, and that an incentive program be created for landowners within the watershed willing to construct water harvesting devices</i></p>

*F.4.2 That the LSRCA continue to undertake stewardship initiatives throughout the Lake Simcoe watershed. Priority areas for undertaking stewardship activities may be identified through Phase 2 of LSRCA's Natural Heritage System*

### **Linkages**

This theme is the implementation vehicle for on-the-ground projects related to the targets and planning tools to be developed under Theme 5 (**Natural Heritage**) and Theme 1 (**Urban Areas and Stormwater Management**). The profile of the stewardship programs listed here will be enhanced by activities identified under Theme 3 (**LSRCA/Municipal Operations**), and Theme 7 (**Communication**). The effectiveness of the stewardship programs themselves may be enhanced by data collected under Theme 8 (**Monitoring**).

### Sub-theme 4-1 – Stewardship processes and funding

The prioritization exercise resulted in the identification of five recommendations (Table 4) that related the stewardship delivery program and funding. Table 4-1 identifies specific activities that can be pursued by the LSRCA and its partners to achieve the intent of these recommendations.

<b>Table 4-1: Stewardship processes and funding</b>			
<b>Activity</b>	<b>Measure of success</b>	<b>Lead agency (collaborating agency)</b>	<b>Target deadline</b>
Review output of stewardship prioritization tool (Table 5.3), and assessment of motivations and barriers to stewardship uptake (Table 7.1), to prioritize areas for action, and identify communication / outreach needs to engage priority landowners	Stewardship plan drafted	LSRCA, MNR, MAFRA, interested members of the Lake Simcoe Stewardship Network	2016
Review existing funding programs to ensure that stewardship funds are provided in locations, and for project types, where maximum benefit can be achieved	Stewardship funding program reviewed and revised as necessary	LSRCA, MNR, MAFRA	2016
Share results of stewardship plan with other members of the Lake Simcoe Stewardship Network	Presentation provided	LSRCA	2016
Revise and/or develop communication and outreach tools to address identified barriers, as necessary	Communication products developed or updated	LSRCA, MNR, MAFRA	2016

### Sub-theme 4-2 – Aquatic ecosystem restoration

The prioritization exercise resulted in six recommendations (Table 4) that related to the stewardship or restoration of aquatic ecosystems. Due to the similarity in some of these recommendations, and the ability of stewardship staff to pursue projects which have multiple benefits, many of them can be achieved through the same set of actions. In fact, some of these actions may also address needs related to the stewardship of terrestrial ecosystems, so actions to address aquatic ecosystem priorities have been included with the actions needed to address Sub-theme 4-3 (**Terrestrial ecosystem restoration**).

### Sub-theme 4-3 – Terrestrial ecosystem restoration

The prioritization exercise resulted in five recommendations (Table 4) that related to the stewardship or restoration of terrestrial ecosystems. Due to the similarity in some of these recommendations, and the ability of stewardship staff to pursue projects which have multiple benefits, many of them can be achieved through the same set of actions. The following table summarizes activities, milestones, timelines and resources needed to progress the recommendations under this theme.

<b>Table 4-3: Aquatic and terrestrial ecosystem restoration</b>			
<b>Activity</b>	<b>Measure of success</b>	<b>Lead agency (collaborating agency)</b>	<b>Target deadline</b>
Using the prioritization tools identified in Table 5-3, establish interim and long-term targets for stewardship implementation in these subwatersheds	Quantitative targets established. Protocol for counting projects established	LSRCA (MNR, MAFRA, York Region, interested members of the Lake Simcoe Stewardship Network)	2014
Share targets with members of the Lake Simcoe Stewardship Network, to engage their participation	Presentation and documentation provided	LSRCA	2014
Continue to implement stewardship projects to improve subwatershed health	Stewardship targets achieved, projects completed in priority areas.	LSRCA, MNR, MAFRA (Lake Simcoe Stewardship Network, York Region)	Ongoing. Interim targets to be reached by 2017

### Sub-theme 4-4 – Urban stormwater retrofits

The prioritization exercise resulted in five recommendations (Table 4) that relate to urban stormwater management. Many of these recommendations (or aspects of) are addressed under Theme 1 (**Urban Areas and Stormwater Management**), however the need to pursue stormwater retrofit opportunities can be addressed through the following actions:

<b>Table 4-4: Urban stormwater retrofits</b>			
<b>Activity</b>	<b>Measure of success</b>	<b>Lead agency (collaborating agency)</b>	<b>Target deadline</b>
Prioritize and schedule stormwater retrofit opportunities identified by LSRCA or municipal Stormwater Management Master Plans	Retrofit schedule created, approved by municipal council and supported by LSRCA	Local municipalities	2014
Create eligibility for financial support for stormwater management retrofit projects	LEAP program revised, funding made available	LSRCA (York Region)	2014
Implement stormwater retrofit opportunities as directed by municipal retrofit schedule	Priority stormwater management ponds are retrofitted	Local municipalities	Ongoing



## THEME 5 – NATURAL HERITAGE

Recommendations in relation to Natural Heritage protection typically fall into one of three sub-themes; these being:

- Sub-theme 5-1: Protecting and restoring natural heritage features through stewardship and securement
- Sub-theme 5-2: Protecting and restoring natural heritage features through planning and development
- Sub-theme 5-3: Developing the tools and resources to support protection and restoration

Table 5 illustrates which priority recommendations are in the three sub-themes

<b>Table 5: High priority recommendations related to natural heritage</b>
<b>Sub-theme 5-1: Protecting and restoring natural heritage features through stewardship and securement</b>
<i>F.1.15 That the LSRCA continue to utilize buffer requirements and timing guidelines as part of its protection of coldwater resources and that the LSRCA undertake other programs including stormwater management upgrades and retrofits, riparian tree planting programs, and stewardship in the form of in-stream fish habitat works. These programs should be continued and enhanced into the future, with financial assistance and technical support provided by the LSRCA LEAP Program</i>
<i>F.2.3 That the lack of woodland cover in the East Holland River, West Holland River, and Maskinonge River subwatersheds be addressed by establishing a goal of increasing woodland cover to 25% (as is identified as York Region’s target in the official plan) in the subwatersheds with an optimal woodland cover of 30% as identified by Environment Canada, over the next 25-30 years (2040), or to the highest percentage deemed feasible through an analysis of potential reforestation locations, recognizing that cover may vary between municipalities, and that forest cover in the Black River subwatershed be maintained at 38%</i>
<i>F.4.1 That the LSRCA continue to undertake Land Securement activities in order to protect target areas. The LSRCA will use a criteria screening tool to determine those lands that are currently not protected and where purchase is the most appropriate protection action. In addition, alternatives to purchase should be considered, e.g. Alternative Land Use Services (ALUS) as another means of long term protection</i>
<b>Sub-theme 5-2: Protecting and restoring through planning and development</b>
<i>A.5.6 That the LSRCA utilize its authority through the Generic Regulation (179/06) under the Conservation Authorities Act to prevent the conversion of wetlands into other land uses, such as agriculture</i>
<i>F.1.15 That the LSRCA continue to utilize buffer requirements and timing guidelines as part of its protection of coldwater resources and that the LSRCA undertake other programs including stormwater management upgrades and retrofits, riparian tree planting programs, and</i>

<i>stewardship in the form of in-stream fish habitat works. These programs should be continued and enhanced into the future, with financial assistance and technical support provided by the LSRCA LEAP Program</i>
<i>F.3.2 That the partner municipalities adopt policies to promote and encourage the planting of native species (particularly drought tolerant species) through development approvals and property management programs</i>
<b>Sub-theme: 5-3: Developing the tools and resources to support protection and restoration</b>
<i>A.5.1 That a concerted effort be made to identify opportunities to reconnect the natural features of the Oak Ridges Moraine (ORM) to Lake Simcoe, through a 'Natural Heritage System for Lake Simcoe'</i>
<i>A.5.3 That the partner municipalities, in conjunction with the LSRCA, develop plans to increase the percentage of natural cover in each subwatershed to 35%, or a lower percentage as determined through a feasibility study</i>
<i>D.1.8 That the results from the BMP inventory should be prioritized and fed into the development of a stewardship plan for the subwatersheds in order to focus the efforts of the LSRCA and its partners and ensure the greatest possible phosphorus reduction</i>
<i>D.1.9 That the LSRCA combine the findings of Phases I and II of the Best Management Practices Inventory with the GIS exercise that was undertaken to determine the amount of natural cover within 30 metres of the watercourses in the subwatershed to develop an implementation plan to restore naturally vegetated buffers within the subwatershed</i>
<i>D.3.5 That the LSRCA complete and implement its Natural Heritage System Phase 2: Restoration, Enhancement and Securement Strategy</i>
<i>D.3.6 That a detailed landscape connectivity assessment be undertaken by LSRCA and the partner municipalities, as part of Phase II of the Natural Heritage System</i>
<i>F.1.8 That the LSRCA evaluate and prioritize specific restoration/enhancement projects within the watershed to improve fish community and aquatic habitats within Lake Simcoe and its tributaries</i>
<i>F.1.11 That LSRCA work with municipal partners to improve in-stream habitat and connectivity through a priority setting exercise specific to barrier/dam removal or retrofitting. Further, that the LSRCA use the LEAP stewardship program to provide technical and financial support to willing participants. Targets for this 'reconnection' program may include (as examples): reducing the number of online ponds by 20% by 2015; and, where appropriate and consistent with municipal culvert reconstruction priorities and budgets, fix/replace documented perched culverts as opportunities arise</i>
<i>F.2.4 That the LSRCA identify opportunities for restoration, enhancement and securement of priority sites to support the needs of the Natural Heritage System for Lake Simcoe as it relates to the East Holland River subwatershed; specific to the subwatershed, woodlands restoration efforts should focus on enhancing the 'Big Woods' area to enhance its function</i>



## Linkages

This management theme includes the development of planning tools which will help inform and co-ordinate the implementation of Themes 2 (**Planning, Development and Enforcement Processes**), 3 (**LSRCA/Municipal Operations**), and 4 (**Stewardship**).

### Sub-theme 5-1 – Protecting and restoring natural heritage features through stewardship and securement

Stewardship plays an important role in protecting natural heritage features. Although the planning and development process should provide the first line of defence to protect existing natural heritage features from incompatible land use; in some cases, stewardship represents an opportunity to work with land owners to improve the amount and quality of natural heritage features in the watershed. Many of these recommendations have been addressed under Theme 4 (**Stewardship**), and will not be repeated here. One additional recommendation related to land securement requires further discussion, and is addressed below in Table 5-1.

<b>Table 5-1: Protecting and restoring natural heritage features through stewardship and securement</b>			
<b>Activity</b>	<b>Measure of success</b>	<b>Lead agency (collaborating agency)</b>	<b>Target deadline</b>
Secure priority natural areas for public benefit, through donation, easement or fee simple purchase, as outlined in the <i>Natural Heritage System Land Securement Project</i> (LSRCA, 2010).	An additional 500-750 hectares of ecologically sensitive land secured in the Lake Simcoe watershed	LSRCA (York Region)	2015
Using the prioritization tools identified in Table 5-3, develop strategy for securement of priority natural areas in York Region. This strategy may include a review of the LSRCA Land Securement Project, the York Region Greening Strategy, and municipal parkland dedication processes	Partners aware of the priority securement areas in their jurisdiction, and their role in acting upon their securement. Securement strategies updated as necessary	LSRCA, MNR, York Region, local municipalities	After completion of securement opportunity map, upon first scheduled update of land securement strategies and municipal official plans

### **Sub-theme 5-2: Protecting and restoring through planning and development**

The prioritization exercise resulted in the identification of three recommendations (Table 5) that related to the protection and restoration of natural heritage values through the planning and development process. These recommendations can be achieved by completing the activities identified in Table 2-1 under Theme 2 (**Planning, Development and Enforcement Processes**).

### **Sub-theme 5-3: Developing the tools and resources to support protection and restoration**

Despite the importance of both stewardship and appropriate policies and programs to protect natural heritage features in the Lake Simcoe watershed, the cost of stewardship (in terms of staff time, money, and land), and the intense development pressure in these subwatersheds makes the protection and enhancement of natural features a difficult challenge. The subwatershed plans recommend that LSRCA and its partners develop decision-support tools to assist in ensuring that stewardship resources are allocated as efficiently and effectively as possible.

<b>Table 5-3: Developing the tools and resources to support protection and restoration</b>			
<b>Activity</b>	<b>Measure of success</b>	<b>Lead agency (collaborating agency)</b>	<b>Target deadline</b>
Prioritize projects identified in BMP opportunity database based on their ability to improve the health of the subwatersheds	BMP priority map created	LSRCA (MNR)	2013
Prioritize opportunity areas for improving the health of the subwatersheds through the restoration of terrestrial natural heritage features	Restoration priority map created	LSRCA (MNR)	2014
Map and prioritize opportunity areas for preserving the health of the watershed through the securement of natural heritage features	Securement priority map created	LSRCA	2015
Share decision-support tools with members of the Lake Simcoe Stewardship Network	Presentation and documentation provided	LSRCA	2013, 2015

## THEME 6- AGRICULTURAL AND RURAL LAND USE

Recommendations in relation to agricultural or rural land use issues typically fall into one of three sub-themes. These being:

- Sub-theme 6-1: Establish processes and funding to protect the environmental health of rural landscapes
- Sub-theme 6-2: Preserving water quantity
- Sub-theme 6-3: Dealing with dust and atmospheric deposition

Table 6 illustrates which priority recommendations are in the three sub-themes

<b>Table 6: High priority recommendations related to agricultural and rural land use</b>
<b>Sub-theme 6-1: Processes and funding to protect the environmental health of rural landscapes</b>
<i>A.4.1 That the partner municipalities, through the LSRCA, create a roundtable made up of municipalities, OMAFRA, MOE, OFA, BILD, and related landowner representatives, or through existing frameworks such as the Lake Simcoe Phosphorus Reduction Strategy, to determine co-operative ways of implementing phosphorus reduction measures in York Region's subwatersheds within the Lake Simcoe basin and to develop an 'action plan' for their implementation within the agricultural and rural communities</i>
<i>B.2.1 That the LSRCA continue to implement programs to address rural non-point sources of pollution by providing landowners with financial and technical assistance from the federal, provincial, and municipal governments and the Lake Simcoe Conservation Foundation to implement best management practices on their lands. Further, that a review of the current level of financial incentives and eligible projects be reviewed in partnership with the agricultural and rural communities</i>
<b>Sub-theme 6-2: Preserving water quantity</b>
<i>G.2.2 That the LSRCA, in conjunction with the province (MNR, MOE), undertake the development of environmental flow targets where the East Holland, West Holland, and the Maskinonge Rivers are the priorities</i>
<i>D.1.5 That the LSRCA, with support of the partner municipalities, develop a framework for the development of environmental flow targets in the Maskinonge subwatershed</i>
<i>D.1.14 That a strategy be developed by MOE, in conjunction with LSRCA and the municipalities, to protect hydrologic function in gaining reaches of stressed watersheds and enhance infiltration wherever possible to protect baseflow, and locations of upwellings in order to maintain thermal stability</i>

*D.2.2 That guidelines and policies to complement the Permit To Take Water (PTTW) regulation should be developed by MOE in conjunction with LSRCA, to restrict surface water (stream) takings from losing stream reaches to protect ecological integrity in those streams*

**Sub-theme: 6-3: Dealing with dust and atmospheric deposition**

*B.2.4 That aggregate and major recreational uses, particularly in rural areas, be encouraged to utilize BMPs to ensure no runoff and dust control as part of the Lake Simcoe Phosphorus Reduction Strategy*

*D.1.11 That the LSRCA, MOE, and watershed municipalities work with the agricultural, development, and aggregate sectors to develop a wind erosion\dust control strategy to reduce phosphorus contributions from atmospheric deposition. Further that additional scientific monitoring and research be conducted to better qualify and quantify potential sources of atmospheric deposition*

### Sub-theme 6-1: Processes and funding to protect the environmental health of rural landscapes

Much of the substance of the recommendations related to developing the processes and funding to protect the environmental health of rural landscapes has been dealt with under Theme 4 (**Stewardship**). Four additional specific activities are necessary to ensure these recommendations are accomplished.

<b>Table 6-1: Processes and funding to protect the environmental health of rural landscapes</b>			
<b>Activity</b>	<b>Measure of success</b>	<b>Lead agency (collaborating agency)</b>	<b>Target deadline</b>
Invite watershed municipalities, MAFRA, MOE, OFA, NGOs, and related landowner and agricultural representatives to participate in agricultural roundtable	Invitations sent	LSRCA	2013
Develop Terms of Reference for agricultural round table to identify scope, membership, and meeting frequency	Terms of Reference developed and endorsed by members of round table	LSRCA (subwatershed municipalities, MAFRA, MOE, MNR, other members of the roundtable, as identified)	2014
Meet periodically, or as necessary, to share information and coordinate efforts on best practices for phosphorus reduction on agricultural land, achieving in-stream flow targets, implementation of stewardship programs, and methods of increasing public awareness	Meetings continue. Members feel that meetings are a good use of their time	LSRCA (subwatershed municipalities, MAFRA, MOE, MNR, other members of the roundtable, as identified)	Ongoing. To begin in 2014
Review current state of financial and technical assistance provided to rural landowners, including types of projects supported and amount of support provided, in context of phosphorus reduction action plan	Stewardship program reviewed, and updated as necessary	LSRCA (agricultural round table)	2015

## Sub-theme 6-2: Preserving water quantity

The prioritization exercise resulted in the identification of four recommendations (Table 6) related to the preservation of water quantity in rural areas. Table 6-2 identifies specific activities that can be pursued by the LSRCA and its partners to achieve the intent of these recommendations.

<b>Table 6-2: Preserving water quantity</b>			
<b>Activity</b>	<b>Measure of success</b>	<b>Lead agency (collaborating agency)</b>	<b>Target deadline</b>
Complete the pilot environmental flow assessment for Lovers Creek subwatershed using methods from the e-flows guidance document	Pilot environmental flow assessment complete.	MOE, (University of Guelph (LSRCA))	2013
Collect additional data to describe current flow regimes in the East Holland River, West Holland River, Maskinonge River, and Black River subwatersheds, as required	Data collected	LSRCA	2014
Develop in-stream flow targets, based on accepted methods, for Black River, East Holland River and West Holland River, that ensure that flow regimes protect the ecological function of watercourses, and refine existing target for Maskinonge River	In-stream flow regime targets established	MOE (LSRCA, MNR, York Region)	2016
Develop strategy, based on in-stream flow targets and current water budgets, to identify and prioritize options to achieve or maintain in-stream flow targets	In-stream flow strategy developed	MOE (LSRCA, MNR, York Region, local municipalities)	2016

<b>Table 6-2: Preserving water quantity</b>			
<b>Activity</b>	<b>Measure of success</b>	<b>Lead agency (collaborating agency)</b>	<b>Target deadline</b>
Use the in-stream flow targets to inform all future stormwater management master plans, as necessary	All future stormwater management master plans are consistent with respective in-stream flow targets	Local municipalities, (York Region, LSRCA, MOE)	As determined by development
Use the in-stream flow targets to refine Official Plan policies related to impervious cover and low impact development, as necessary	Official Plans updated, as necessary	York Region, local municipalities, (LSRCA, MOE)	First scheduled Official Plan review after in-stream flow targets established
Use the results of the in-stream flows assessment to refine stewardship prioritization tools to assist in maintaining ecological flows, as necessary	Stewardship prioritization maps revised as necessary	MNR (terrestrial), LSRCA (aquatic)	2017
Use the in-stream flow targets to inform the Permit to Take Water process, as necessary	PTTW permit process amended to ensure all future allocations are consistent with recommendations in the respective in-stream flow targets	MOE	2017

### Sub-theme 6-3: Dealing with dust and atmospheric deposition

The prioritization exercise resulted in the identification of two recommendations (Table 6) that related to dealing with dust and atmospheric deposition generated in rural areas both inside and outside the subwatersheds. Table 6-3 identifies specific activities that can be pursued by the LSRCA and its partners to achieve the intent of these recommendations.

<b>Table 6-3: Dealing with dust and atmospheric deposition</b>			
<b>Activity</b>	<b>Measure of success</b>	<b>Lead agency (collaborating agency)</b>	<b>Target deadline</b>
Invite watershed municipalities, MNR, and agricultural and aggregate representatives to participate in atmospheric deposition roundtable	Invitations sent	MOE	2013
Identify potential dust source areas based on land use, soil P-content, and soil susceptibility for erosion, using results of ongoing research	Map of dust source areas developed	MOE	2014
Use the results of the potential dust sources to refine stewardship prioritization tool (Table 5-3)	Stewardship prioritization maps revised as necessary	MNR	2014
Review current state of financial and technical assistance provided, including types of projects supported and amount of support provided, in context of atmospheric reduction action plan	Stewardship program reviewed, and updated as necessary	MNR (atmospheric deposition round table)	2015
Develop an 'action plan' to reduce atmospheric deposition associated with municipal, aggregate, and agricultural operations	Action plan developed	MOE (atmospheric deposition round table)	2015
Implement action plan	Action plan acted upon, and uptake of phosphorus reduction activities increased	MOE (atmospheric deposition round table)	ongoing



## THEME 7- COMMUNICATIONS

Table 7 comprises ten recommendations identified as being a high priority that can be implemented through adjustments to the way that LSRCA communicates about its programs.

Theme 7: Communication

- Sub-theme 7-1: Promoting stewardship to increase uptake
- Sub-theme 7-2: Improving reporting of data collected

<b>Table 7: Communications</b>
<b>Sub-theme 7-1: Promoting stewardship to increase uptake</b>
<i>F.2.1 That the LSRCA undertake a Pilot Project in the Maskinonge River subwatershed to utilize Community-Based Social Marketing as a means of changing behaviour and increasing buy-in for stewardship activities and the use of BMPs</i>
<i>H.1.2 That the LSRCA investigate the feasibility of using 'Facebook' and other nonconventional means of web-based communication to improve uptake and understanding of the subwatershed plans and their future implementation</i>
<i>H.2.2 That LSRCA investigate new and innovative ways of reaching target audiences in the local community and engage/involve them in restoration programs and activities e.g. high school environmental clubs, through Facebook groups, hosting a Lake Simcoe Environment Conference for high schools/science community interaction</i>
<i>H.2.4 That coordinated, widespread education and outreach should be implemented; focused on using best management practices to prevent the spread of invasive species and the destruction of aquatic habitat in order to protect the integrity of the Lake Simcoe watershed. These programs should be targeted to their audiences, from school groups to residents and recreational users to ensure that they are effective</i>
<i>H.3.2 That LSRCA undertake more widespread promotion of the LEAP and other programs that it undertakes</i>
<i>H.3.3 That LSRCA hold workshops/seminars to educate landowners about key issues and inform them of the programs available to resolve these issues</i>
<i>H.4.1 That LSRCA expand its media network to enhance the promotion of its stewardship programs and research to a wider audience</i>
<i>H.3.2 That LSRCA undertake more widespread promotion of the LEAP and other programs that it undertakes</i>

### **Sub-theme 7-2: Improving reporting of data collected**

*E.1.6. That water quality results are analyzed and reported annually and that the information be used to update the LSRCA Watershed Report Card. Further, that stakeholders be provided access to the water quality data collected via the world wide web to increase distribution*

*H.2.3 That the LSRCA continue to ensure transparency and reasonable access to data, reports, and decisions of the LSRCA related to the subwatershed plans and their implementation*

### ***Linkages***

The Communication theme is intended to increase public awareness of the state of the Lake Simcoe watershed and actions they can take to improve watershed health. As such, recommendations and actions identified under this thematic area will complement and support actions related to Themes 4 (**Stewardship**), 1 (**Urban Areas and Stormwater Management**), 6 (**Agricultural and Rural Land Use**), and 8 (**Monitoring**).

### Sub-theme 7-1: Promoting stewardship to increase uptake

The prioritization exercise resulted in the identification of eight recommendations (Table 7) that related to the promotion of stewardship and greater uptake of technical assistance and funding programs available within the subwatersheds. Table 7-1 identifies specific activities that can be pursued by the LSRCA and its partners to achieve the intent of these recommendations.

<b>Table 7-1: Promoting stewardship to increase uptake</b>			
<b>Activity</b>	<b>Measure of success</b>	<b>Lead agency (collaborating agency)</b>	<b>Target deadline</b>
Analyse patterns of stewardship program implementation, including uptake of various project types, trends in uptake, and comparison between uptake and opportunity or priority	Analysis complete and report written	LSRCA (MNR, MOE, MAFRA, York Region)	2014
Conduct literature review of factors related to stewardship behaviour of private land owners	Literature review complete and report written	LSRCA (MNR, MOE, MAFRA, York Region)	2015
Interview practitioners regarding perceived barriers to uptake of stewardship programs, and successful examples	Interviews complete and report written	LSRCA (MNR, MOE, MAFRA, York Region)	2015
If questions remain as a result of earlier steps, conduct a survey of subwatershed residents to determine their knowledge, attitudes, and behaviours related to watershed stewardship	Survey complete, with sufficient sample size to achieve statistical power	LSRCA (MNR, MAFRA, MOE, York Region)	2016

<b>Table 7-1: Promoting stewardship to increase uptake</b>			
<b>Activity</b>	<b>Measure of success</b>	<b>Lead agency (collaborating agency)</b>	<b>Target deadline</b>
Present results of research to Lake Simcoe Stewardship Network	Presentation completed	LSRCA	2016
Review existing web presence and develop online communication strategy, including assessment of the role of social media in increasing public awareness of the state of, and management of, Lake Simcoe	Communication strategy developed	LSRCA	2013
Develop 'Watershed Newsletters' as a vehicle to communicate the results of ongoing research and monitoring of the state of Lake Simcoe and its watershed	Newsletter series developed, newsletters published and distributed annually (or more frequently)	LSRCA	Ongoing, to begin in 2012

## Sub-theme 7-2: Improving reporting of data collected

Monitoring data is of limited use unless it is shared amongst land management agencies, and reported to stakeholders and the general public. As such, two recommendations have been prioritized for action.

<b>Table 7-2: Improving reporting of data collected</b>			
<b>Activity</b>	<b>Measure of success</b>	<b>Lead agency (collaborating agency)</b>	<b>Target deadline</b>
Work with Comprehensive Monitoring Strategy team to ensure reporting requirements such as web portal are included in the reporting plan	Completed Comprehensive Monitoring Strategy with reporting plan that includes easy access to key indicators at regular intervals, and relevant spatial units via the internet, and other approaches as appropriate.	LSRCA (MOE, MNR)	2013
Work with Comprehensive Monitoring Strategy team to characterize the current state of information management for monitoring data and identify gaps	Completed Comprehensive Monitoring Strategy with process to ensure key data is available to support the identified reporting products	LSRCA (MOE, MNR)	2013
Develop a detailed reporting and communication strategy for all future reporting on Lake Simcoe	Business plan outlining potential products, roles and responsibilities and resource allocation.	LSRCA (MOE, MNR)	2014
Analyze and report on results of environmental monitoring program	Provide identified products (e.g. web portal) within specified time frames and resources	LSRCA (MOE, MNR)	Ongoing, to begin in 2014



## THEME 8- MONITORING

There is a long history of monitoring in the Lake Simcoe watershed, undertaken by the MOE, LSRCA, and other partners, to provide direction and feedback to the Lake Simcoe Environmental Management Strategy. With the establishment of the Lake Simcoe Protection Plan, additional direction related to monitoring and reporting has arisen. Much of this new direction is related to the Comprehensive Monitoring Strategy. Additional recommendations in the York Region subwatershed plans provide guidance related to the management, analysis, access to, and reporting of this data.

Recommendations in relation to monitoring and reporting typically fall into one of two sub-themes; these being:

- Sub-theme 8-1: Monitoring watershed health
- Sub-theme 8-2: Assessing stewardship effectiveness

Table 8 illustrates which priority recommendations are in the two sub-themes

<b>Table 8: High priority recommendations related to monitoring</b>
<b>Sub-theme 8-1: Monitoring the health of the watershed</b>
<i>E.1.1 That the LSRCA continue to maintain and / or enhance the existing monitoring network. This sampling should be continued into the future to assess the state of water quality in the subwatersheds, and determine/monitor any trends (including seasonal trends), emerging contaminants, or new substances of concern that may arise</i>
<i>E.1.3 That the current LSRCA monitoring network be reviewed annually to ensure it meets the surveillance/compliance goals of the monitoring strategy and as required, allow for special projects to be undertaken to address emerging trends</i>
<i>E.4.1 That LSRCA, in conjunction with partner municipalities, undertake refinements, field verifications, and updates of Natural Heritage and Land Use mapping</i>
<i>F.2.3 That the lack of woodland cover in the East Holland River, West Holland River, and Maskinonge River subwatersheds be addressed by establishing a goal of increasing woodland cover to 25% (as is identified as York Region's target in the official plan) in the subwatersheds with an optimal woodland cover of 30% as identified by Environment Canada, over the next 25-30 years (2040), or to the highest percentage deemed feasible through an analysis of potential reforestation locations, recognizing that cover may vary between municipalities, and that forest cover in the Black River subwatershed be maintained at 38%</i>

## Linkages

Data collected under the Monitoring theme will be an important tool for determining the effectiveness of actions undertaken in Themes 1 to 6, and will help support the subwatershed implementation plan governance.

The reporting of data collected under this theme is addressed under Sub-theme 7-2 (Improving reporting of data collected).

### Sub-theme 8-1: Improving data collection

The prioritization exercise resulted in four recommendations that may influence the collection of monitoring data in the Lake Simcoe watershed. Although some of these recommendations are directed primarily at stewardship or policy actions, it is important to ensure that the monitoring program is able to report on their success

<b>Table 8-1: Improving data collection</b>			
<b>Activity</b>	<b>Measure of success</b>	<b>Lead agency (collaborating agency)</b>	<b>Target deadline</b>
Work with Comprehensive Monitoring Strategy team to ensure strategy includes key variables and indicators to enable reporting on the direction of the LSPP and the recommendations of the York Region subwatershed plans	Completed Comprehensive Monitoring Strategy, suitable for reporting on implementation of the subwatershed plans	LSRCA (York Region)	2013
Review monitoring data and monitoring program to enable further assessment of emerging trends in watershed health	A monitoring framework which is flexible enough to respond to emerging trends or threats (not an output)	LSRCA, MOE (York Region)	annually
Undertake update of the Lake Simcoe land cover and land use map	Land cover and land use map updated	LSRCA (MNR, OMAF)	2013
Conduct land use change analysis to document changes in overall land cover since development of York Region subwatershed plans	Land use change analysis complete	LSRCA	2018



## Sub-theme 8-2: Assessing stewardship effectiveness

Although not explicitly identified as a recommendation in the York Region subwatershed plans, subsequent discussions with the Lake Simcoe Stewardship Network and Lake Simcoe Science Committee highlighted the need to do a better job of both tracking the implementation of stewardship projects by the multiple agencies working in these subwatersheds, and assessing the effectiveness of those actions.

<b>Table 8-2: Assessing stewardship effectiveness</b>			
<b>Activity</b>	<b>Measure of success</b>	<b>Lead (collaborating) agency</b>	<b>Target deadline</b>
Identify barriers to sharing data related to stewardship uptake, and ways to overcome barriers	Clear understanding of what information can be shared, and agreement to share, achieved	MNR, (MOE, MAFRA, LSRCA)	2013
Continue to maintain stewardship tracking database associated with ourlakesimcoe.com	Stewardship tracking database remains available for use	MNR	Ongoing
Develop protocol for documenting natural heritage mitigation and improvement projects required for works completed under the permit and planning process	Protocol established. Projects documented	MNR, LSRCA, watershed municipalities	2013
On an annual basis, document completed stewardship projects in the tracking database	Database updated on an annual basis	MNR, MOE, MAFRA, LSRCA, watershed municipalities, Members of Lake Simcoe Stewardship Network	Ongoing

**Table 8-2: Assessing stewardship effectiveness**

<b>Activity</b>	<b>Measure of success</b>	<b>Lead (collaborating) agency</b>	<b>Target deadline</b>
Develop a program, which would identify types of projects to be assessed, and indicators of success, using standard protocols. Protocols should be consistent with protocols used for the Comprehensive Monitoring Program, where possible	Assessment program and suite of standard protocols established	LSRCA, MNR, MOE, MAFRA, York Region, interested members of the Lake Simcoe Stewardship Network	2014
Implement assessment program and report on results	Assessment program implemented and results reported to members of the Lake Simcoe Science Committee and Lake Simcoe Stewardship Network	LSRCA, MNR, MOE, York Region	Ongoing, to begin in 2015
Use assessment results to refine stewardship prioritization tools and subwatershed plans, as appropriate	Restoration prioritization map revised, as necessary. Subwatershed plans revised, as necessary	LSRCA (aquatic prioritization, subwatershed plans) MNR (terrestrial prioritization)	2017

## **IMPLEMENTATION STATUS REPORT**

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The York Region Implementation Working Group will meet annually or semi-annually (as determined in the Working Group's forthcoming Terms of Reference) to report and coordinate on the status of implementation of the East Holland River, West Holland River, Black River and Maskinonge River Subwatershed Plans. The following Implementation Status Report will form the basis of that reporting framework, and will contribute to the Working Group's annual reporting (as described in Table A). The following table is available in Excel format from LSRCA.

Table #	Activity	2013	2014	2015	2016	2017	2018	ongoing	Lead agency	Project status	Barriers to progress	Strategies for overcoming barriers
A: Enhanced coordination	Strike implementation working group	x							LSRCA			
	Develop Terms of Reference	x							LSRCA			
	Implementation working group meetings							x	LSRCA			
	Share annual reports with partners							x	LSRCA			
B: Review and update	Review subwatershed monitoring data			x					LSRCA			
	Revise subwatershed plans			x					LSRCA			
	Revise implementation plan			x					LSRCA			
1-1: Increasing use of LID	Establish LID working group	x							LSRCA			
	Finalize LID discussion paper	x							LSRCA			
	Submit LID discussion paper to MOE	x							LSRCA			

Table #	Activity	2013	2014	2015	2016	2017	2018	ongoing	Lead agency	Project status	Barriers to progress	Strategies for overcoming barriers
	Recommendations to address LID barriers	x							LSRCA			
	Develop LID funding strategy	x							LSRCA			
	LID pilot projects					x			interested municipalities			
	LID training courses					x			LSRCA			
	Incorporate LID in stormwater plans					x			interested municipalities			
1-3: Improving construction practices	Erosion control best practice review	x							LSRCA			
	Draft erosion control BMP guide	x							LSRCA			
	Consult on draft guide	x							LSRCA			
	Raise awareness of BMP guide		x						Local municipalities			
	Develop funding model		x						Local municipalities			
	Monitor and report on erosion control		x					x	Local municipalities			

Table #	Activity	2013	2014	2015	2016	2017	2018	ongoing	Lead agency	Project status	Barriers to progress	Strategies for overcoming barriers
	Periodic updates to BMP guide		x					x	LSRCA			
1-4: Natural channel design	Drainage Act feasibility study		x						LSRCA			
	Drain revision pilot study			x					LSRCA			
	Review stewardship programs, projects aimed at enhancing ecological function of municipal drains			x					LSRCA, MNR			
	Review stewardship programs, projects aimed at managing the timing and/or quality of agricultural drain discharge			x					LSRCA, MNR			
	Pursue opportunities to enhance drains							x	LSRCA			

Table #	Activity	2013	2014	2015	2016	2017	2018	ongoing	Lead agency	Project status	Barriers to progress	Strategies for overcoming barriers
2-1: Planning, etc	Develop draft Official Plan policies								York Region and local municipalities			
	Review LSRCA planning and development policies	x							LSRCA			
	Develop protocol for monitoring and/or auditing permits	x							LSRCA			
3-1: Improving property management	Public land management review		x						LSRCA, York region, local municipalities			
	Public land stewardship strategy							x	LSRCA, York region, local municipalities			
	Showcase projects							x	LSRCA, York region, local municipalities			
3-2: Reducing	Strike salt working group	x						x	LSRCA			
	Salt mgmt BMPs	x							Local municipalities			

Table #	Activity	2013	2014	2015	2016	2017	2018	ongoing	Lead agency	Project status	Barriers to progress	Strategies for overcoming barriers
	List snow removal contractors	x							Local municipalities			
	Outreach to snow removal contractors		x						Local municipalities			
	Minimize chloride loadings in new development		x						Local municipalities			
	Monitor chloride	x						x	MOE			
3-3: Ditch mgmt	Municipal and roadside ditch best practice review	x							LSRCA			
	Review ditch standards		x						York Region and local municipalities			
	Review LSRCA permit process		x						LSRCA			
4-1: Stewardship processes	Develop stewardship plan				x				LSRCA, MNR, MAFRA			
	Review stewardship programs				x				LSRCA, MNR, MAFRA			



Table #	Activity	2013	2014	2015	2016	2017	2018	ongoing	Lead agency	Project status	Barriers to progress	Strategies for overcoming barriers
	Share stewardship plan with LSSN				x				LSRCA			
	Revise communication tools				x				LSRCA, MNR, MAFRA			
4-3: Stewardship	Establish interim and long-term stewardship targets		x						LSRCA			
	Share targets with LSSN		x						LSRCA			
	Continue to implement stewardship projects					x		x	LSRCA, MNR, MAFRA			
4-4: Stormwater retrofits	Prioritize retrofit opportunities		x						Local municipalities			
	Create eligibility for financial support		x						LSRCA			
	Implement stormwater retrofit opportunities							x	Local municipalities			

Table #	Activity	2013	2014	2015	2016	2017	2018	ongoing	Lead agency	Project status	Barriers to progress	Strategies for overcoming barriers
5-1: Land securement	Secure priority natural areas			x					LSRCA			
	Develop land securement strategy								LSRCA, MNR, York Region, local municipalities			
5-3: Natural heritage tools	Create BMP priority map	x							LSRCA			
	Create restoration priority map		x						LSRCA			
	Create land securement priority map			x					LSRCA			
	Share results with LSSN	x		x					LSRCA			
6-1: Rural landscapes	Strike agricultural round table	x							LSRCA			
	Agricultural round table ToR		x						LSRCA			
	Agricultural round table meetings		x					x	LSRCA			

Table #	Activity	2013	2014	2015	2016	2017	2018	ongoing	Lead agency	Project status	Barriers to progress	Strategies for overcoming barriers
	Review stewardship programs			x					LSRCA			
6-2: Water quantity	Complete pilot in-stream flow assessment	x							MOE			
	Collect additional flow data		x						LSRCA			
	Develop in-stream flow targets				x				MOE			
	Develop in-stream flow strategy				x				MOE			
	Use in-stream flow targets in stormwater plans								Local municipalities			
	Refine OP policies on stormwater mgmt								York Region and local municipalities			
	Refine stewardship prioritization tool					x			MNR, LSRCA			
	Use in-stream flow targets in PTTW					x			MOE			

Table #	Activity	2013	2014	2015	2016	2017	2018	ongoing	Lead agency	Project status	Barriers to progress	Strategies for overcoming barriers
6-3: Atmospheric deposition	Strike atmospheric deposition roundtable	x							MOE			
	Create map of dust source areas		x						MOE			
	Use results to refine stewardship prioritization tool		x						MNR			
	Develop action plan			x					MOE			
	Review stewardship programs			x					MNR			
	Implement action plan							x	MOE			
7-1: Promoting stewardship	Analyze stewardship program uptake		x						LSRCA			
	Conduct stewardship behavior literature review			x					LSRCA			
	Interview stewardship practitioners			x					LSRCA			
	Survey watershed residents				x				LSRCA			

Table #	Activity	2013	2014	2015	2016	2017	2018	ongoing	Lead agency	Project status	Barriers to progress	Strategies for overcoming barriers
	Share results with LSSN				x				LSRCA			
	Develop online communication strategy	x							LSRCA			
	Develop newsletter series							x	LSRCA			
7-2: Data reporting	Establish reporting plan for comprehensive monitoring strategy	x							LSRCA			
	Review current state of data sharing	x							LSRCA			
	Develop reporting and communication strategy		x						LSRCA			
	Analyze and report on monitoring results		x					x	LSRCA			

Table #	Activity	2013	2014	2015	2016	2017	2018	ongoing	Lead agency	Project status	Barriers to progress	Strategies for overcoming barriers
8-1: Monitoring	Identify key variables and indicators	x							LSRCA			
	Assess emerging trends							x	LSRCA, MOE			
	Update land cover and land use map	x							LSRCA			
	Conduct land use change analysis						x		LSRCA			
8-2: Stewardship effectiveness	Identify barriers to sharing stewardship data	x							MNR			
	Maintain stewardship tracking database							x	MNR			
	Develop project tracking protocol	x							MNR, LSRCA, watershed municipalities			
	Document completed stewardship projects	x						x	MNR, MOE, MAFRA, LSRCA, LSSN			
	Develop stewardship assessment program		x						LSRCA, MNR, MOE, MAFRA			

Table #	Activity	2013	2014	2015	2016	2017	2018	ongoing	Lead agency	Project status	Barriers to progress	Strategies for overcoming barriers
	Assess effectiveness of stewardship projects			x				x	LSRCA, MNR, MOE, York Region			
	Revise stewardship prioritization tools					x			LSRCA, MNR			