



TOWN OF  
**HALTON HILLS**  
*Working Together Working for You!*

## REPORT

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**TO:** Mayor Lawlor and Members of Council

**FROM:** Catherine Edwards, Environment and Natural Assets Specialist

**DATE:** April 7, 2025

**REPORT NO.:** CSE-2025-013

**SUBJECT:** Fairy Lake Water Quality Study Implementation Plan

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### RECOMMENDATION:

THAT Report No. CSE-2025-013 dated April 7, 2025, regarding the Fairy Lake Water Quality Study Implementation Plan, be received;

AND FURTHER THAT Council approve the five-year Implementation Plan attached to and summarized in Report No. CSE-2025-013, in principle, subject to budget and resources availability;

AND FURTHER THAT Council direct staff to report back for approval of implementation items requiring future budget resources;

AND FURTHER THAT staff report back to Council with the results of any actions or pilot projects carried out as part of the Implementation Plan for further direction.

### KEY POINTS:

The following are key points for consideration with respect to this report:

- Fairy Lake is a human-made lake built in the early 1800s. It provides a variety of recreational opportunities within and adjacent to the lake, including free access to water recreational activities (fishing, swimming, boating) for residents of Halton Hills.
- The Fairy Lake Water Quality Study was completed in 2010 and again in 2021-22 due to water quality and vegetation concerns, and their potential impacts on recreational use.

- Council received [Report RP-2023-010](#) regarding the final [Fairy Lake Water Quality Study Update 2021-2022](#) (FLWQS) at the October 30, 2023 [Council meeting](#), and directed staff to undertake public and stakeholder consultation on the management recommendations included in the report.
- A public open house was held, and a survey was conducted on the Town's Let's Talk Halton Hills webpage in 2024. A [summary of the survey results](#) were received by Council at the October 7, 2024 [Council meeting](#) through [Memorandum CSE-2024-006](#).
- Based on the consultant's recommendations included in the FLWQS Report, input from stakeholders, public feedback received through the survey, open house, petition submitted to staff, and Council feedback to-date - staff have developed a five-year Fairy Lake Water Quality Study Implementation Plan (Appendix A), which includes further public consultation on specific activities.
- The plan outlines a multi-year roadmap for improving Fairy Lake water quality through the implementation of recommended management actions over the course of three phases spanning from 2025 to 2030.
- In 2024, \$50,000 was approved in the capital budget to advance the implementation of the Fairy Lake management actions and staff recommend using the existing \$50,000 to implement select Phase 1 actions (Table 1) identified in the Fairy Lake Water Quality Study Implementation Plan.
- The Fairy Lake Implementation Plan is complemented by the implementation of priority actions from the [Black Creek Subwatershed Study Management Plan](#) (CVC, 2019) and the development of an Acton Sustainable Neighbourhood Action Plan (SNAP), which will be led by Credit Valley Conservation, funded by Halton Region, and supported by Town staff.
- The Mayor's Black Creek Advisory Group will provide oversight and guidance in implementing the Fairy Lake Water Quality Study, as well as support the coordination of the CVC-led Black Creek Subwatershed Study Management Plan implementation.
- This significant, multi-year and multi-stakeholder Implementation Plan will guide the Town in carrying out actions meant to improve Fairy Lake water quality for the benefit of the Town's residents as well as the environment, including the wildlife and plant species that are part of Fairy Lake's ecosystems.
- Building on all the community engagement and extensive work completed to date, advancement of the recommendations of this staff report marks a significant milestone in the FLWQS project, with a shift to implementation.

## **BACKGROUND AND DISCUSSION:**

### **1.0 Fairy Lake Water Quality Study Update**

Fairy Lake is a human-made lake approximately 26 hectares in size. Located in Acton in the Black Creek subwatershed, the lake is adjacent to Prospect Park and Rotary Park, and is surrounded by residential properties. Fairy Lake and the surrounding areas southwest of the lake are part of a designated Provincially Significant Wetland (PSW).

Prior to the creation of the lake in the early 1800s, the area was likely a wetland. As a human-made lake, Fairy Lake has undergone intensive management in the past including dredging until the 1960s and vegetation removal until the 1990s, after which the management approach shifted drastically. The initial Fairy Lake Water Quality Study, completed in 2010, resulted in the Council-approved decision to manage the lake as a wetland due to concerns about environmental health and water quality.

The 2019 [Black Creek Subwatershed Study Management Plan](#), completed by Credit Valley Conservation, echoed these concerns, identifying stressors to Fairy Lake and potential actions to address the health of the Lake and the surrounding subwatershed. In the 2020 capital budget, Council approved the Fairy Lake Water Quality Study Update project to assess the current state of the lake and water quality concerns from a recreational and ecological standpoint.

The [Fairy Lake Water Quality Study Update 2021-2022](#) (FLWQS) report, received by Council in October 2023, included results from field studies characterizing the lake's bathymetry, surface water quality, sediment quality, vegetation and wildlife. The studies showed high levels of phosphorus and bacteria in the lake. The report documented stressors to water quality, including large goose populations, runoff from residential and agricultural land uses such as fertilizer application and storm water inputs. In addition, the vegetation study identified invasive species such as *phragmites* and *miscanthus* which impact ecosystem health.

The report identified recommended management actions for the Town's consideration that could be implemented to mitigate these stressors and improve the water quality in Fairy Lake to better support ecological health and recreational experience. The 2021-2022 Water Quality Study update recommends maintaining the current approach of managing the lake as a wetland, recommending against intensive activities such as dredging or large-scale removal of in-water native aquatic vegetation. Many of the recommendations are also aligned with the actions that came out of the Black Creek Subwatershed Study Management Plan.

### **2.0 Public & Stakeholder Engagement**

After the completion of the FLWQS Report, staff initiated public and stakeholder consultation on the results and recommendations included in the report. Staff held a public open house and conducted a public survey on the Town's Let's Talk Halton Hills webpage between January and March 2024. A [summary of the survey results](#) were received by Council at the October 7, 2024 [Council meeting](#).

Community members use the lake for nature enjoyment and recreation, including hiking, swimming, boating and fishing - among other activities. Through the public survey results and open house feedback, residents indicated that the poor water quality at Fairy Lake has reduced their ability to enjoy the lake for recreation and it has also had negative impacts on the natural environment.

Nearly all residents who participated in the survey (92%) felt that the Town must carry out active management to improve the current conditions of Fairy Lake. The majority of residents (94%) also agreed that the Town should invest in regular water quality testing to gauge the impact of management activities. The most popular management activity among residents was goose management, supported by 87% of survey respondents. Daily beach grooming to mitigate the impact of the geese was also indicated as a high-importance action by 71% of residents surveyed.

In addition to goose management, another recommended activity receiving strong support from survey respondents is shoreline naturalization:

- 77% of residents indicated they would support the Town naturalizing areas around the lake and shoreline by reducing mowing and letting the grass grow longer.
- 69% of residents indicated that they believe the Town should plant trees and shrubs along the shoreline.

However, in February 2024, staff received a petition from 211 individuals opposing the naturalization of the parks surrounding Fairy Lake, with a focus on Rotary Park. The petition is on file with the Clerk's office and has been shared with Council. The main concerns expressed were that the naturalization of turf or grassy areas currently being mown could increase insect and wildlife populations, negatively impact mental and physical health and safety, reduce natural beauty of the area, and limit recreational opportunities by reducing active maintained parkland. Staff note that further clarification of any proposed naturalization strategy would be beneficial to gather additional feedback from residents. Recognizing this, the Implementation Plan includes further public consultation on this topic. It is important to note that naturalization efforts would be focused and targeted to ensure that significant active recreational areas are maintained and that trails/pedestrian routes remain through all areas.

There were also mixed responses relating to wetland design and enhancement. The action was ranked as being of high-importance to survey respondents, but only 56% indicated support for converting active parkland to wetlands to treat runoff before it reaches the lake. These results indicate that further public consultation is required when developing wetland, tree planting, and naturalization planting and design plans. Other actions included public education and engagement, agricultural best management practices and Low Impact Design (LID) features.

Since Fairy Lake is located within the Black Creek Subwatershed, the recently formed Black Creek Advisory Group will provide oversight and guidance to advance implementation of the Fairy Lake Water Quality Study. Since the last update to Council in October 2024, two Black Creek Advisory Group meetings were held where Town staff provided updates on the Fairy Lake Implementation Plan and received feedback from

the group. Ward 1 Councillors and the Healthy Environment and Communities Committee were also consulted on the recommended actions.

Staff incorporated public and stakeholder feedback in the development of the Implementation Plan in consultation with the project technical team made up of cross-departmental staff, and staff representatives from Credit Valley Conservation and Halton Region.

### **3.0 Link to Black Creek Subwatershed Plan Actions and Acton Sustainable Neighbourhood Action Plan**

In consultation with Town staff and the Black Creek Advisory Group, Credit Valley Conservation developed a 5-year project proposal to implement priority actions from the [Black Creek Subwatershed Study](#). The proposal includes the establishment of an Acton Sustainable Neighbourhood Action Plan (SNAP), a wetland design feasibility study for inlets to Fairy Lake, the Bovis Creek Channel restoration feasibility study, and subwatershed floodplain and flood risk mapping.

The main objective of the Black Creek Subwatershed Study implementation project is to support the long-term environmental health of the Acton area and the broader Black Creek Subwatershed. This is to be achieved through improvements to surface water quality including Fairy Lake, environmental resilience and restoration of natural heritage features, and groundwater protection. In this way, there is close alignment between the objectives of the Black Creek Subwatershed Study and the FLWQS Implementation Plan.

On March 19, 2025, Credit Valley Conservation brought the proposal to [Halton Regional Council](#) and it was approved for 2025 funding of \$315,000. Over the course of five years, this project will result in a \$1.5 million Halton Region investment in the Black Creek Subwatershed, which includes Fairy Lake. These projects support the FLWQS recommendations and have been integrated into the Fairy Lake Water Quality Study Implementation Plan, where appropriate. Town staff and the Black Creek Advisory Group will work collaboratively with CVC to implement both projects, ensuring a coordinated and efficient approach.

### **4.0 Implementation Plan**

The Implementation Plan entails a multi-year and multi-stakeholder environmental stewardship initiative. It is a significant and impactful undertaking. The plan outlines a roadmap for carrying out management actions intended to improve Fairy Lake water quality over the course of three phases:

- Phase 1: 2025-2026
- Phase 2: 2026-2027
- Phase 3: 2028-2030

In the Appendix, the actions are described along with their estimated costs (where known), lead and support roles are identified, and timing of each action is outlined. The plan also identifies which items are recommended to be funded by the existing Fairy Lake capital project 8500-11-1603 and which items will require future Council

consideration and approval. Staff will continue to apply for external funding through grants to support implementation, where possible. The Implementation Plan builds on the core recommendations of continuing to manage Fairy Lake as a wetland, and not advancing more intensive management options that would impact the wetland flora or fauna - as approved by Council in 2010.

Actions in the Implementation Plan reflect all 12 recommendations from the FLWQS report. Since this is a multi-year and multi-stakeholder project, a large component of the Implementation Plan is focused on community engagement, including:

- Developing and implementing the Fairy Lake/Acton Sustainable Neighbourhood Action Plan including consideration for community/business incentives, interpretive signage, community programming, and stewardship partnerships.
- Hosting the 'Mayor's Fishing Derby' to raise awareness about the Round Goby and other invasive species, while building community.
- Providing additional recreational opportunities, including trails, access points, public art, cultural programming and educational signage.
- Identifying actions to support increased recreation opportunities through the Fairy Lake and Surrounding Parks Master Plan.

In developing the plan, staff prioritized actions with on-the-ground results, scheduling them for Phase 1. Examples of these actions include shoreline naturalization, invasive species removal and more frequent beach grooming. Planning for other priority actions will also kick-off in Phase 1, including the catchbasin cleaning program assessment, waterfowl management enhancement report, as well as the wetland and natural channel design feasibility studies.

It is recommended that the following Phase 1 actions be funded from the existing \$50,000 approved budget, per Table 1.

**Table 1: Phase 1 actions recommended for funding from project 8500-11-1603**

Action ID	Description	Related Recommendation	Cost	Lead	Support	Public Consult
1.2.1	Assess catchbasin cleaning program to identify opportunities for improvements to reduce sediments to Fairy Lake	2. Storm sewer retrofits & maintenance	\$10,000	TPW	CS; BCAG	
1.6.4	Implement phragmites management plan	6. Vegetation management	\$15,000	CS	BCAG	
1.7.1	Develop enhanced waterfowl management report	7. Waterfowl management	\$10,000	CS	BCAG, TPW	Yes
1.8.1	Implement pilot project to trial more frequent beach maintenance	8. Increase level of beach maintenance	\$15,000	TPW	BCAG; CS	

BCAG – Black Creek Advisory Group

CS – Community Services

TPW – Transportation and Public Works

As mentioned earlier, the wetland and natural channel design projects as well as the SNAP will be led by Credit Valley Conservation as part of the Black Creek Subwatershed Implementation project. SNAP will provide a mechanism for further public consultation and engagement on items such as wetland and natural channel design, shoreline naturalization, and goose management. Town staff will collaborate with Credit Valley Conservation on public engagement to ensure a cohesive and efficient approach.

Future phases of the Implementation Plan (subject to future budget approvals), include:

- Development and implementation of an approach to routine water quality monitoring.
- Development and implementation of the Fairy Lake & Surrounding Parks Master Plan to support increased recreation opportunities including those related to trails, access points, public art, cultural programming, etc.
- The review of relevant Town policies and by-laws (e.g. those pertaining to fertilizers and/or Low Impact Development)

It is important to note that beyond the FLWQS Implementation Plan, a number of major master plans and studies are underway and planned that will support the study's recommendations, including:

- Invasive Species Management Plan
- Green Infrastructure Management Plan
- Green Development Standard Update
- Stormwater Management Master Plan
- Biodiversity Study
- Growing Canada's Community Canopies

Fairy Lake is a critical natural heritage feature and wetland within the Black Creek Watershed. The Fairy Lake Water Quality Study Implementation Plan will help improve the water quality in Fairy Lake for the betterment of residents' recreational experience and the health of the natural environment. Not only will this improve the quality of life for residents, but it will also help advance the Town's Strategic Priorities.

Building on all the community engagement and extensive work completed to date, advancement of the recommendations of this staff report marks a significant milestone in the FLWQS project, with a shift to implementation.

## **STRATEGIC PLAN ALIGNMENT:**

This report identifies natural areas and heritage as one of the Town's Strategic Priorities.

In addition, the 2023-2026 Strategic Plan identifies Fairy Lake as an important watershed feature that the Town is committed to preserving and enhancing, and this Implementation Plan is a mechanism for fulfilling that commitment.

## **RELATIONSHIP TO CLIMATE CHANGE:**

This report impacts and/or helps address climate change and the Town's resiliency through climate adaptation. Fairy Lake is an important natural heritage feature, also contributing to climate change mitigation. This Implementation Plan is intended to improve the water quality and environmental health of Fairy Lake, making it more resilient to the impacts of climate change.

## **PUBLIC ENGAGEMENT:**

Public Engagement has been conducted as follows: Online Survey, Open House

An online survey was completed through Let's Talk from January to March 2024 and a public open house was held in February 2024. The [survey results](#) and feedback received at the public open house supported the prioritization of management actions to be included in the Fairy Lake Water Quality Study Implementation Plan. There will also be future public consultation as outlined in the Implementation Plan, for key management and implementation projects, conducted in coordination with the CVC SNAP Project.

Further public consultation is required before advancing implementation of specific initiatives and is included in the Implementation Plan.

## **INTERNAL CONSULTATION:**

The Black Creek Advisory Group, chaired by the Mayor, and staff from Transportation and Public Works and Finance were consulted in the preparation of this report. A cross-functional technical team from Community Services (Parks, Community Development & Environment), Transportation and Public Works (Engineering, Public Works/Park Operations) and Communications, as well as external agencies (CVC, Halton Region) participated in the Fairy Lake Water Quality Study Update.

## **FINANCIAL IMPLICATIONS:**

This report will be funded through an existing approved budget source. As part of the 2024 Capital Budget, Council approved Project 8500-11-1603 Fairy Lake Water Quality Study Update Implementation Recommendations - Phase 1, totaling \$50,000. This existing funding will be utilized for the implementation of the identified actions in Phase 1 of the Implementation Plan (Appendix A).

It is important to note that, at present, implementation is only limited to the funded Phase 1. The required staff and financial resources to implement Phases 2 and 3 are not currently available.

Staff note that the Implementation Plan cannot be fully costed until additional studies are completed, and the feasibility review of key projects in Phase 1 is advanced. As



such, final cost estimates for Phase 2 and Phase 3 initiatives in the Implementation Plan are not yet known.

Currently, where staff time is noted in the Implementation Plan, it is intended that existing staff will implement the actions, however, further resources may be required depending on the final work plans and scope of work of each initiative (i.e. Acton SNAP), which may have future implications for the Operating Budget.

Staff will report back to Council as part of the approvals for Phase 2 and Phase 3 with future staffing impacts and detailed capital and operating costs for Council's consideration - for items where funding cannot be identified at this time. These future additional costs have not been included in the Long-Range Financial Plan and are subject to a future review of affordability.

Reviewed and approved by,

Michelle Bourdeau, Manager of Environment & Climate

Kevin Okimi, Director of Parks, Community Development & Environment

Damian Szybalski, Commissioner of Community Services

Chris Mills, Chief Administrative Officer