



MARKHAM SUBCOMMITTEE AGENDA ITEM 3.2: ANNUAL REPORTS

Wednesday June 18, 2025
9:00 – 11:00 am

THANK YOU TO OUR FINANCIAL PARTNERS



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WALKER PARKER
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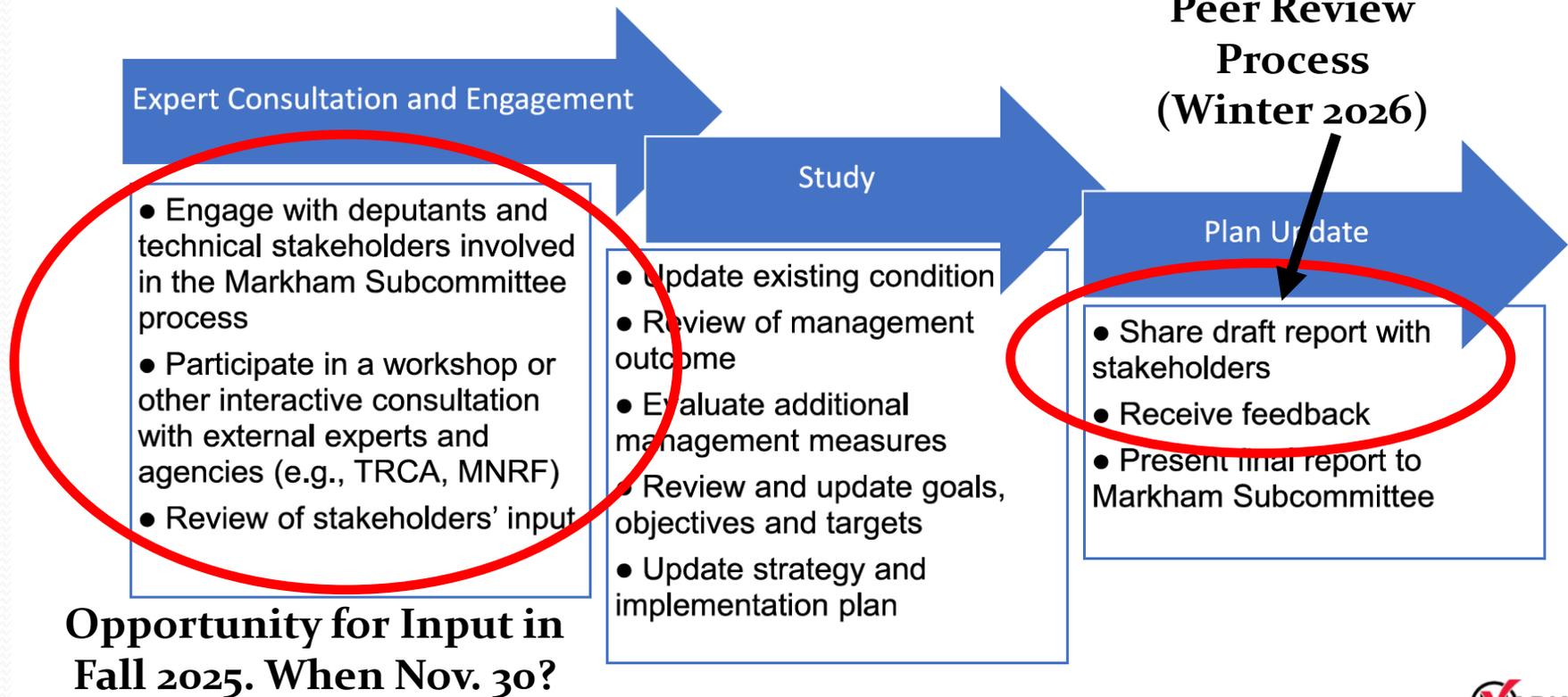
AMICA
SWAN LAKE

Four General Topics

- 1) Long-term Plan Review Process
- 2) Flow Diversion Report
- 3) Shoreline Restoration Plan
- 4) Swan Lake Nature Stewards Pilot



Plan Review Process

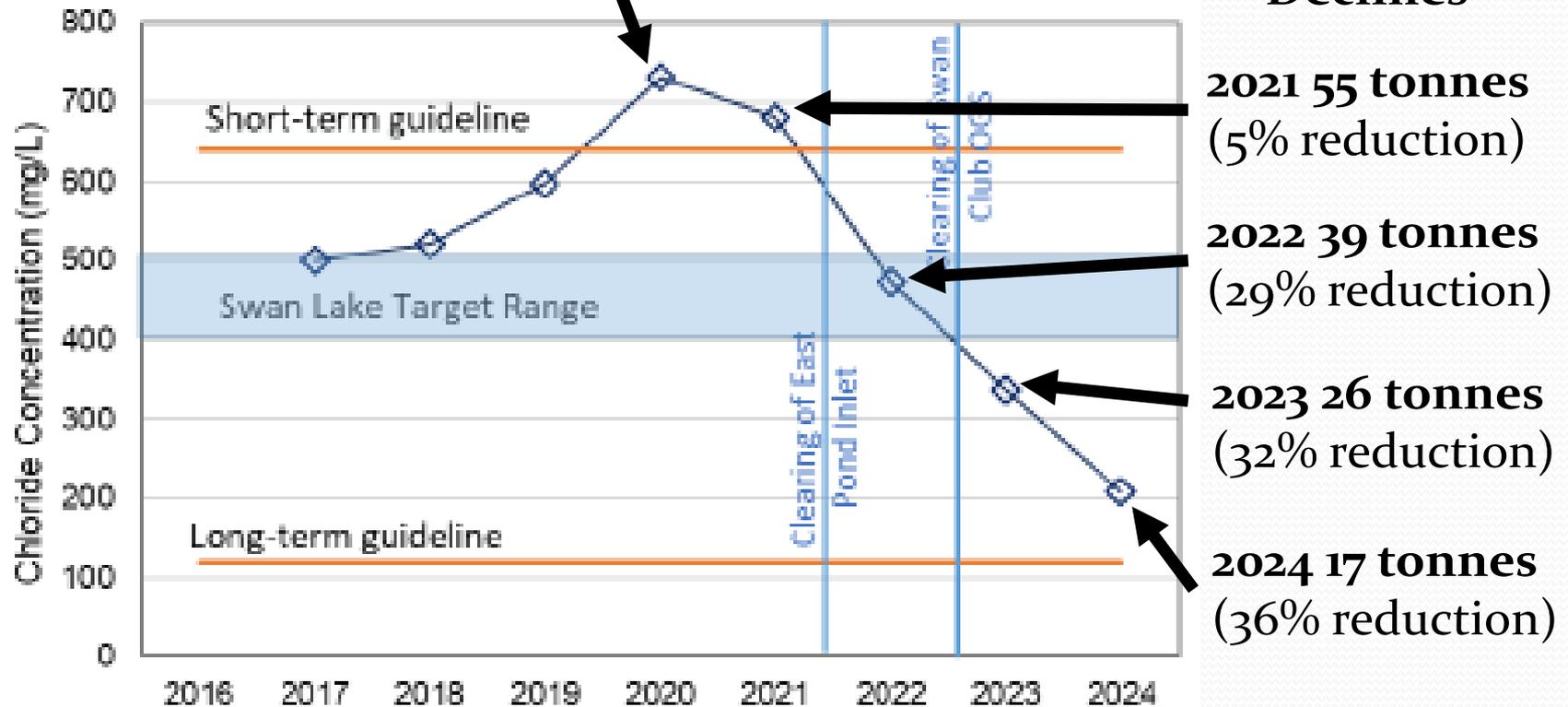


2021 - 2024

Significant Decline in Chloride Levels

Chloride level in Swan Lake peaked at 58 tonnes in 2020

Significant Declines



Inflows reduced once blocked pipe cleared. Reasons for reductions are not clear.

Road Salt/ Chloride Problem Measured in Tonnes

- Annual inflows 3.2 tonnes of chloride or 5.3 tonnes of road salt per year
- Every year, a truck load of road salt enters the lake



Chloride Reduction Options

Comprehensive review of chloride reduction options. Thank you!

			Annual Chloride	Chloride Reduction		Costs	Cost per Tonne
Summary of Best Options			(t/yr)	(t/yr)	% Total		
S2	Amica & TC OGS	Reroute	2.33	2.33	73%	1,109,178	476,042
S4	Swan Club OGS	Reroute	0.33	0.33	10%	275,072	833,552
S5(b)	East Pond (2 Inlets)	Raise Weir/Enlarge Pipe	0.38	0.25	8%	84,315	337,260
S5(a)	North Pond (1 Inlet)	Raise Weir	0.17	0.10	3%	10,139	101,390
			3.21	3.01	94%	\$1,478,704	\$491,264

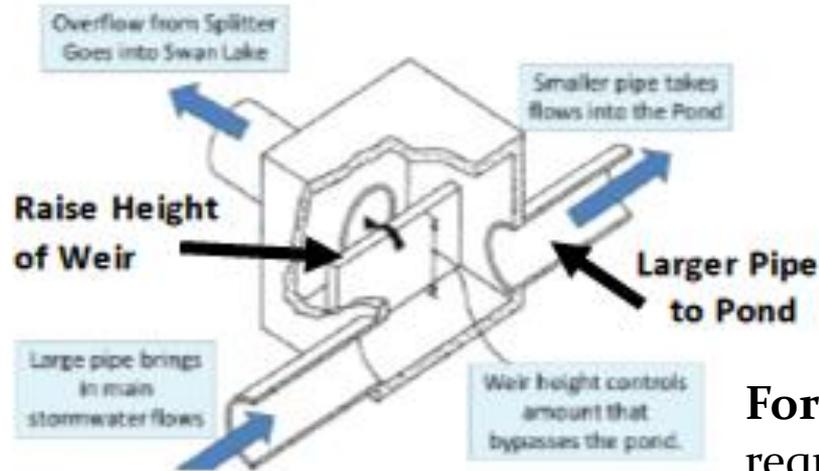
- Altering Inflows from Ponds most cost-effective investment
- Low cost (\$94,454) reduces 11% of chloride inflows (0.35 tonnes per year)
- Ponds require significant investment for cleaning (est. \$500,000 each)
 - Resizing splitters less than 10% of cost of cleaning
- Negotiate minor alterations to Flow Splitters during pond hand-over
- Reduces need for further investment to reroute OGS inflows

Proposed Amendment to staff proposal

- Consider adjusting flow splitters during pond cleaning and handover process
- Consider re-routings of OGS in Phase 3

\$95,000 Reduces Total Inflows by 10%

- Flow Splitters control flow into ponds
 - During heavy rains direct excess flows to lake
 - # Flow Splitters: East Pond 2; North Pond 1
- Investigate options of raising Weir during pond handover



	Height	Cost	Chloride Reduction	
			t/yr	% All Sources
North Pond (1)				
Raise Weir (1)	0.1 m	\$10,139	0.10	3%
East Pond (2)				
Raise Both Weirs	0.3 m	\$20,281	0.24	7%
Enlarge Pipes (2)		\$84,315	0.25	8%

For East Pond, raising weirs to max of 0.3 m requires increasing pipes (another \$84,315)

- Investigate benefit of raising weir less to reduce need to incur cost to increase pipes.

Is Shoreline Fencing Necessary

- Residents question effectiveness of fencing vs shoreline plantings as a geese restraint
- Concern about intrusive impact on wildlife (nesting swans, turtles etc.)
- **Why so high?**
 - Objective is geese restraint, not human
 - Perhaps something knee-high would suffice



Toronto Nature Stewards: A Successful Role Model

- **Stewardship Program** for 40 City of Toronto sites
- Powerful “Adopt a Park” model that includes routine services like clean-up, planting
- Advanced program for managing invasive species
 - **Delegated responsibilities for identification and removal** (with permission)
 - Training program, procedural manuals
 - 90 Lead Stewards, 700 Stewards (volunteers)
- Three full-time operational staff, no direct funding from City of Toronto

TNS Stewardship: A Shared Responsibility

Toronto Nature Stewards is responsible for:

- Recruiting and training Lead Stewards
- Submitting new stewardship sites to the City of Toronto for approval
- Creating and maintaining the TNS website
- Coordinating and aggregating monitoring and reporting
- Providing a point of contact between TNS Stewards and the City of Toronto
- Providing stewardship guidance to private property owners
- Overseeing Stewards who develop management plans, remove invasive plants, and plant native species.

The City of Toronto is responsible for:

- Providing criteria for determining sites and activities
- Circulating information to relevant internal City of Toronto divisions for site approval
- Reviewing Invasive Plant Information Sheets, providing input on best management practices, and approving species for removal and planting

Swan Lake Park Nature Stewards Pilot

- Will be styled along lines of Toronto Nature Stewards operational model
- Proposal for a 2026 Pilot Project will include:
 - 1) A plan to remove 2-3 invasive species in Swan Lake Park in 2026
 - 2) For each species:
 - a) Targeted locations
 - b) Removal techniques to be utilized
 - c) Markham support required (if any)
 - 3) Proof of Commercial Liability insurance coverage
 - 4) Submitted to Markham staff for review and approval by Nov. 30, 2025
 - 5) Staff review and decision by Feb 28, 2026

Swan Lake Nature Stewards Pilot

Requesting Your Support:

- 1) Ask staff to review, **and if beneficial**, support FOSLP's Nov. 2025 proposal for a Swan Lake Nature Stewards pilot project to remove certain invasive species in Swan Lake Park in 2026
 - **Above request endorsed by Markham Environmental Advisory Committee on May 29, 2025**
 - Positive comments at General Committee June 17, 2025

Request Subcommittee:

- 1) Endorse staff's proposed Phase 1 review process
- 2) Clarify rationale and design for shoreline fencing
- 3) Amend staff proposal re flow reduction
 - a) Consider adjusting flow splitters during pond cleaning and handover process (\$95,000)
 - b) Consider re-routings of OGS in Phase 3
- 4) Ask staff to review proposal for Swan Lake Park Nature Stewards Pilot



FOCUSED ON REHABILITATION OF SWAN LAKE AND SWAN LAKE PARK

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