



**Friends of
Swan Lake Park**

WE WANT TO GO BACK TO THE FUTURE

FROM THIS



BACK TO THIS



Item 8.1 – Geese Management at Swan Lake
General Committee of Markham Council
Monday September 21, 2020

Thank You to Markham Staff

- Thank you to Rob Grech and David Plant for the time taken for walkabouts around the Park to discuss our concerns and outline your views
- For 32 new trees and new “toxic” algae warning signs
- For outlining the scope of the proposed “Park Refresh” Program



We ask for Your Support on Two Issues

1. Approval of the staff proposed enhanced Goose management program, including:
 - a) A new goose relocation program (June)
 - b) More intense geese hazing program for the fall
2. Approval of a trial program using strobe lights as part of the enhanced fall hazing program
 - a) Staff still has concerns and does not support inclusion
 - b) Markham Subcommittee (Aug 14) supported inclusion of strobe lights

The Case For Enhanced Goose Management Program

- This review is triggered by a concern about the phosphorus contribution
 - Fall migration is the primary contributor to phosphorus load (70%)
- Primary community impact nesting and visiting geese
 - Stay throughout the summer and into the fall and pollute parkland areas
 - Numbers are smaller (100+) however they significantly impact parkland areas and phosphorus load (25%)
- Once young can fly, numbers on lake at night increase (Aug. 10 – 230+)
 - those that nested elsewhere move to the safety of the lake

Community Impact	Parkland Pollution	Noise Pollution	Phosphorus Contribution
Nesting/ Visiting	✓		25%
Spring Migration		✓	5%
Fall Migration		✓	70%
Program Benefits			
Spring	✓	✓	✓
Summer (Hazing)	✓		
Fall (Hazing)		✓	✓

Financial Assessment of Program

Benefits of Proposed Programs										
	Program	Goal	Phosphorus (Kg)		Savings		Program Cost	Multi Year	Park Issues	Less Noise
			Load	Reduction	# Yrs	Value				
Resident Geese	Eggs/ Relocation	50%	3.8	1.9	5	\$12,497	\$ 17,000	✓	✓	
Spring Migration	Hazing	0%	0.8	0.0	1	\$0	\$ -			✓
Fall Migration	Hazing	25%	10.5	2.6	1	\$3,499	\$ 9,500			✓
Note: To eliminate 1 kg of phosphorus using Phoslock costs \$1,333			15	4.5		\$15,996	\$ 26,500			
				30%						

Annual Program costs \$26,600, with potential Phoslock savings of \$16,000

- **Spring Program : Worthwhile – Cost \$17,000, reduces costs \$12,500 (5 yrs.)**
 - Provides multiple year reduction in geese count (benefits over 5 yr. Phoslock cycle)
 - Reduces parkland pollution
 - **Could be made more effective if the nesting groups could be relocated as well.**
- **Fall Program : Questionable Value**
 - **Cost \$9,500, reduces Phoslock costs by \$3,500 (assume 25% reduction, 1 yr. benefit)**
 - **Over 5 year Phoslock cycle: Costs \$47,500 to save Phoslock costs of \$17,500 (37%)**
 - Primary benefit is one-time phosphorus reduction, some reduction in noise pollution
 - **Need to increase effectiveness to at least 50% to justify the cost**
 - **More effective if we could alter migration patterns – realize multi-year benefits**

2100 Geese Taking an Afternoon Nap on Swan Lake (Nov 27, 2017)



- Daily counts over 1,000 frequent in Oct/Nov (currently 750)
 - Fly over neighbouring homes 4x day – sunrise, midday(2), sunset
- Fall migration accounts for 70% of phosphorus contribution
 - Longer stays if good weather and food plentiful
- Can Hazing (scaring) be successful?
 1. What % will leave the lake following hazing
 2. What % return within 2 hrs?
 3. What % return the next day?

Temperature and Snow Fall Are Big Factors

- Difficult to assess the success of past hazing efforts
- Temperature and snow cover (access to food) may have more to do with the changing counts than hazing efforts
- Fall 2015 & 2016 warm, cooler periods 2018-2019

	Geese Days			Average Max		Light Snow December
	Total Year	Sept-Nov. %	Estimate	Daily Average	November F C	
2019	26,000	71%	17,745	195	38.7 3.7	
2018	24,433	45%	10,920	120	38.8 3.8	Dec 3 - 30
2017	23,403	78%	18,200	200	44.8 7.1	Dec 5 - 15
2016	67,158	68%	45,500	500	51.1 10.6	Dec 3 - 10
2015					51.0 10.5	Dec 8, Dec 16
2014	23,152	79%	18,200	200	41.4 5.2	Dec 1 - 18

Note: On Tuesday Sept. 15, 2020 there were 750 Geese on Swan Lake

Concerns Expressed About Strobe Lights

1. Don't scare geese away - true

- Not designed to “scare” them. Objective is to disrupt sleep patterns, encouraging them to find quieter resting area

2. Work for awhile but geese get use to them

- Perhaps a valid concern for full season use – resident birds have reason to tough it out
- Perhaps migratory birds less reason to persist and will move on

3. Negative impact on other wildlife

- Perhaps a valid concern for full season use (best all season alternative)
- Proposal is to use strobes for fall migration period (Oct./Nov.).
- May trigger earlier departure of other migrating birds
 - Wild trumpeter swans have already left the lake
 - Regular mute swans are not on the lake this year, in future could be removed to co-ordinate timing with the program.

Proposed Fall Program Concerns & Options

Concerns – Low probability of success

Questionable that hazing techniques will reduce geese count impact by 25%, therefore even poorer economics

1. Costly & Labour intensive exercise
2. Need to exceed 50% success rate to justify the cost

Three Options

1. Abandon fall hazing program – poor economics
2. Proceed as proposed by Staff (daily hazing - \$9,500)
3. Perpetual Harassment – daily hazing, add strobe lights (\$17,500)
 - Try to reduce stays 50% to make program financially viable
 - A multi-year effort **may** alter migration patterns

Recommend Perpetual Harassment

Goals: Reduce phosphorus contribution (Baseline 18,000 geese days)

1. Realize minimal annual reduction goals of 25% (13,500)
2. Realize financial viability at 50% reduction (9,000)
3. Alter migration patterns - get multi-year benefit

Perpetual Harassment Program

- Implement staff's proposed increase to daily harassment
 - Dogs, laser light or boats as proposed
- Add 7 strobe lights on the water to discourage same day return

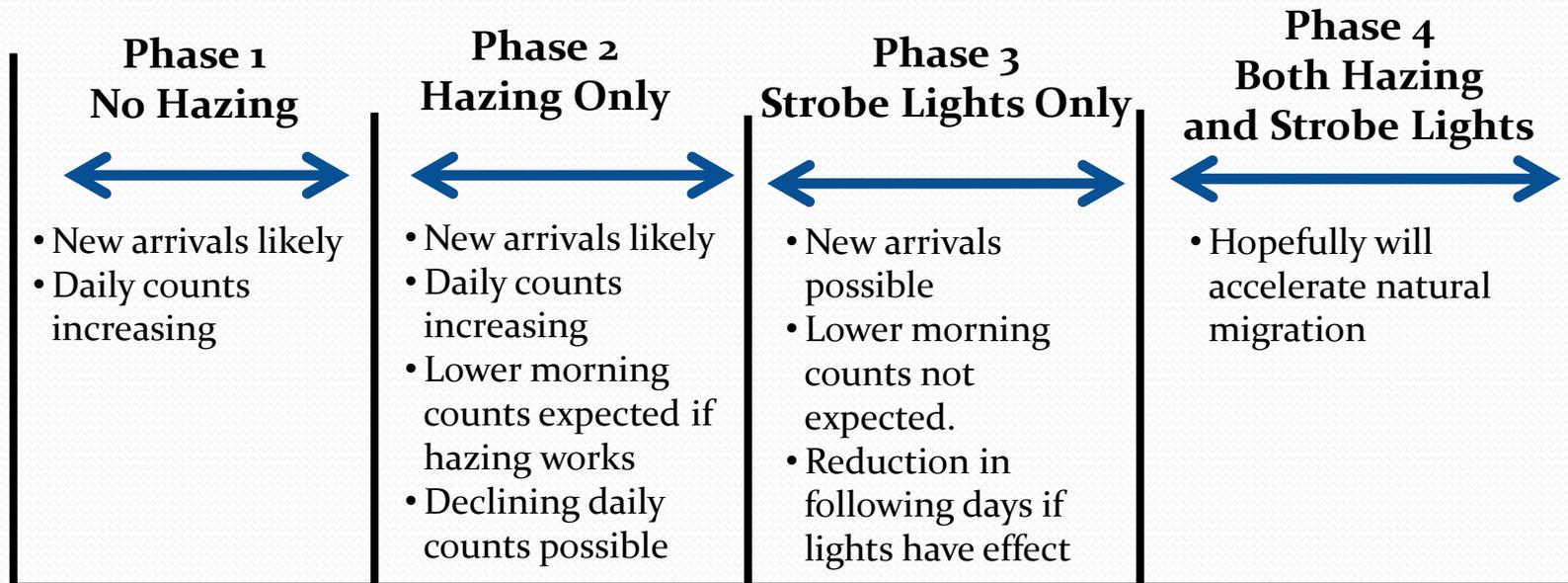
Trial costs for Markham: \$17,500 in 2020 (\$9,500 in 2021)

- Staff proposed daily hazing \$9,500 + one time \$8,000 for 7 lights
- If successful, lights can be reused either permanently through 2021 or only for the fall migration period.

Measuring Effectiveness of Hazing Efforts

- 20+ volunteers – 3-4 counts per week
- Count will provide baseline for 2020 geese volume
- Primary objective is to determine if any hazing techniques are effective
 - can we encourage early departures south

4 phase program “proposed” to city staff



Our Recommendations

1. Support General Program Proposed by Staff
2. **Support “Perpetual” fall hazing program that includes strobe lights**
 - Add 7 strobe lights during the fall for all night disruption (\$8,000 – last 3-5 yrs.)
3. Reassess after 2020 and 2021
 - Continue if financially viable



**Friends of
Swan Lake Park**

WE WANT TO GO BACK TO THE FUTURE

FROM THIS



BACK TO THIS



Thank You For Your Support!