2012 City of Greater Sudbury
Milfoil Solution® Progress Report

Prepared for:

The City of Greater Sudbury

Prepared by:

Offered By:

Milfoil Solution, Inc.
A Canadian Subsidiary
www.milfoilsolution.ca
Of
EnviroScience, Inc.
3781 Darrow Road, Stow, Ohio 44224
(800) 940-4025 / www.enviroscienceinc.com

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1.0 Introduction

Eurasian watermilfoil (*Myriophyllum spicatum*, hereafter referred to as milfoil) is an exotic aquatic species that tolerates a wide range of growing conditions and out-competes native vegetation. Monocultures of milfoil limit recreational use, reduce biodiversity, and can cause detrimental changes to water temperature and dissolved oxygen in severe infestations.

The native North American beetle, the milfoil weevil (*Euhrychiopsis lecontei)*, was augmented in six lakes in the City of Greater Sudbury, Ontario in 2011 and 2012 to suppress the growth of Eurasian watermilfoil. This herbivorous weevil is a milfoil specialist and damages the plant in multiple ways. The most significant impact is caused by the weevil larva as it damages the meristem, or growing tip, and burrows through the stem. Nutrient flow in the plant is disrupted and the stem loses buoyancy and collapses in the water column. A cascading effect pulls neighboring plants lower into the water column and the rate of photosynthesis and overall plant health is significantly reduced in these stems.

The following is an outline of the Milfoil Solution® project for the City of Greater Sudbury thus far:

	2011		2012		2013 (proposed)
Grant Lake	-	-	S1	5,000	4,000
Long Lake	S1-S4	23,000	S1, S3	11,000	8,000
McFarlane Lake	S1-S3	15,000	S3	5,000	6,000
Richard Lake	S1, S2	18,000	S1, S2	7,000	4,000
Simon Lake	S1	10,000	S1	5,000	4,000
St. Charles Lake	S1	9,700	S1	7,000	4,000*
Total		**75,700**		**40,000**	**30,000**

*These 4,000 weevils were originally proposed to be introduced to Middle Lake. However, to preserve integrity of long-term scientific research on Middle Lake, these weevils will be redistributed to St. Charles Lake.

2.0 Survey Methods

An initial survey is performed prior to weevil stocking and a follow-up survey is conducted six to eight weeks later. Qualitative observations include overall milfoil density and health, native plant species present, and the presence of weevils and weevil-induced damage. Quantitative measurements include milfoil density and weevil population density. Milfoil density is determined by randomly collecting stems throughout the milfoil bed using a quadrat. This sample is then converted to the number of stems per square meter (stems/m^2). Weevil population density (number of weevils per stem) is determined through lab analysis of 30 stems sampled from three transect lines at each site.

3.0 Survey Results and Weevil Stocking

Eight sites across six lakes were stocked in 2012 with 40,000 weevils. Initial surveys were performed at sites stocked in 2012 and follow-up surveys were performed at all sites stocked in 2011 and 2012. Weevil density (weevils/stem) and milfoil density (stems/m^2) were recorded at each stocking site and tabulated in Tables 1-12 in the Appendix.

Initial and follow-up surveys were completed on the following dates:

Lake Name	Initial Survey	Follow-up survey
Grant Lake	July 25, 2012	September 5, 2012
Long Lake	August 4, 2012	September 5, 2012
McFarlane Lake	August 5, 2012	September 4, 2012
Richard Lake	July 24, 2012	September 4, 2012
Simon Lake	July 6, 2012	September 4, 2012
St. Charles Lake	June 15, 2012	September 4, 2012

Grant Lake

- **S1** – 5,000 were stocked at S1. Prior to stocking, milfoil at this site was dense and consisted of 99% of the plant community. Weevils were identified in all life stages with a density of 0.73 weevils/stem whereas milfoil density consisted of 292.59 stems/m^2. During the follow-up survey, weevil larvae and larval damage were observed to occur, however no weevils were observed within samples collected to determine weevil density. Additionally, milfoil density increased from 292.59 stems/m^2 to 562.96stems/m^2 between the initial and follow-up surveys. Milfoil within S1 during the initial survey consisted of new, green and healthy shoots with ~5% of the bed at the surface of the water. By the end of the season, almost all of the milfoil was at the surface of the water, brownish in colour with roughly 75% flowered. The native aquatic plant species of eelgrass (*Valisneria americana*), Richardson's pondweed (*Potamogeton richardsonii*) and white water lily (*Nymphaea odorata*) were identified at this stocking site.

Long Lake

- **S1** – 5,000 weevils were stocked at S1. Milfoil at this site was dense, healthy and greenish in colour with 60% of the milfoil at the surface of the water. Prior to weevil stocking, weevil density consisted of 0.03 weevils/stem and milfoil density consisted of 525.93stems/m^2. During the follow-up survey, weevil density appeared to increase to 0.10 weevils/stem whereas milfoil density increased slightly to 618.52 stems/m^2. In addition, qualitative observations of weevil damage within the milfoil bed consisted of damage to 20% of the milfoil bed during the initial and follow-up surveys. At the time of the follow-up survey, almost all of the milfoil was at the surface of the water with 90% flowering. The native aquatic plant Richardson's pondweed was also identified at this site.

  In comparison to the previous stocking year, initial weevil density (0.13 weevils/stem) and follow-up weevil density (0.64 weevils/stem) in 2011 were higher than what was observed in 2012. Milfoil density was higher in 2012 than 2011 for both the initial milfoil density (403.70 stems/m^2) and follow-up surveys (74.07 stems/m^2). Although there was an increase in the overall milfoil density and decrease in weevil density, the amount of milfoil qualitative damage observed during the 2012 remained consistent with the amount of damage observed during the follow-up survey of 2011 with ~20% of the milfoil bed damaged.

- **S2** – S2 was not stocked in 2012, however a follow-up survey was completed to compare to the previous season. Weevil density at S2 in 2012 consisted of 0.10 weevils/stem in comparison to 0.70 weevils/stem in 2011. Additionally, milfoil density increased from 177.78 stems/m^2 to 422.22 stems/m^2 between the 2011 and 2012 follow-up surveys. Although milfoil density increased, overall abundance of milfoil at this site decreased from 2011 to 2012 from 90% to 40% with many spaces that have opened up. Plants at this site consisted of ~50% reaching the surface whereas the other half remained >1m below the surface. Weevil damaged observed during the follow-up surveys between the two seasons remained within ~20-25% damage observed within the milfoil bed.

- **S3** – 6,000 weevils were stocked at S3. Milfoil composed about 95% of the plant community with green milfoil plants with half ~15cm below the surface and half at the surface. Weevils were not observed in the samples collected to determine weevil density during the initial and follow-up surveys, however adults and weevil larvae were observed in the milfoil bed during sampling. In addition, weevil damage estimated within the patch at the time of sampling consisted of ~30-40%. Between the initial and follow-up survey, milfoil density increased from 540.74 to 651.85 stems/m^2. At the time of the follow-up survey almost all of the milfoil was flowering. The native aquatic plant Richardson's pondweed was also observed at S3.

Weevil density was lower during the initial and follow-up surveys in 2012 in comparison to 2011, however weevil damage observed during the follow-up surveys appeared to increase from ~15-20% damaged in 2011 to 30-40% in 2012. In addition, milfoil density in 2011 was lower during the initial survey (140.74 stems/m^2) and follow-up survey (148.15 stems/m^2) in comparison to 2012.

- **S4** – S4 was not stocked in 2012, however a follow-up survey was completed to compare to the previous season. Weevils were not observed in the samples collected to determine weevil density during the follow-up survey, however weevil damage observed in the milfoil bed during plant collection was consistent with 2011 with ~10-15% of the stems damaged. Milfoil composed of ~85-90% of the plant community at S4 and was flowering at the time of the survey. Milfoil density increased from 111.11 stems/m^2 in 2011 to 540.74 stems/m^2 in 2012 at this site. At the time of the follow-up survey, 60% of the milfoil was flowering while other plants appeared to be dying back. Pipewort (*Eriocaulon aquaticum*), Richardson's pondweed and watersheild (*Brasenia schreberi*) were also identified at this site.

McFarlane Lake

- **S1** – S1 was not stocked in 2012, however a follow-up survey was completed to compare to the previous stocking season. Milfoil at this site was dense with 90% flowering at the time of the survey. Weevils were observed in both the egg and larval stage during the follow-up survey and weevil density consisted of 0.10 weevils/stem. This was lower than the weevil density observed at McFarlane Lake in 2011 which consisted of 0.90 weevils/stem at the time of the follow-up survey. In addition, milfoil density increased at S1 from 255.56 stems/m^2 in 2011 to 788.89 stems/m^2 in 2012. Richardson's pondweed was also identified at this site.

- **S2** –S2 was not stocked in 2012, although a follow-up survey was completed to compare to the previous season. Milfoil at this site was dense at the surface with 20% of the bed flowering. Weevils were not present in the samples collected to determine weevil density in 2012 however weevils in the larval stage and roughly 20% of the plants appeared to have sustained weevil damage in the larval stage. In 2011, weevil density consisted of 1.30 weevils/stem. In addition, milfoil density was observed to increase between the follow-up surveys from 325.93 stems/m^2 in 2011 to 777.78 stems/m^2 in 2012. Chara (*Chara sp.*), eelgrass and Richardson's pondweed were also identified at this site.

- **S3** – 5,000 weevils were stocked at S3. At the time of stocking, 50% of the site was at the surface of the water and healthy. Milfoil weevils were not present in the samples collected to determine weevil density during the initial survey, however, weevil larvae were observed within the milfoil patch. Weevil density observed during the follow-up survey consisted of 0.30 weevils/stem. Milfoil composed about 95% of the plant community and increased in density from 611.11 stems/m^2 in the initial survey to 818.52 stems/m^2 during the follow-up survey.

  In comparison to the 2011 season, weevil density was observed to decrease during the follow-up survey from 0.57 weevils/stem in 2011 to 0.30 weevils/stem in 2012. Initial and follow-up milfoil densities in 2011 (initial 107.41 stems/m^2; follow-up 166.67 stems/m^2) were lower than densities observed in 2012, however the amount of weevil damage observed in the bed remained consistent at ~10-15% damaged following the stocking season.

Richard Lake

- **S1** – 3500 weevils were stocked at S1 on July 24, 2012. Milfoil at this site was dense and composed 95% of the plant community. Weevil density prior to stocking consisted of 0.17 weevils/stem with egg, larval and adult lifestages observed with an increase in weevil density to 0.87 weevils/stem during the follow-up survey. Milfoil density also increased from 429.63 to 685.19 stems/m^2 between the initial and follow-up surveys. Although there was an increase in milfoil density, the plants remained 45cm below the surface of the water. Richardson's pondweed and water starweed (*Zosterella dubia*) were both identified at this site.

  Initial weevil density at S1 was higher in 2011 with 0.43 weevils/stem but only reached a density of 0.47 weevils/stem during the 2011 follow-up survey. Conversely, weevil density at this site was highest during the 2012 follow-up survey with 0.87 weevils per stem. Milfoil density also varied throughout the two stocking seasons with higher density observed in the initial and follow-up surveys performed in 2012. Weevil damage observed within the patch increased between the stocking seasons from ~20% damaged in 2011 to 30% damaged following the 2012 stocking. In 2011, milfoil density consisted of 103.70 stems/m^2 in 2011 and 111.11 stems/m^2 during the follow-up survey.

- **S2** – 3,500 weevils were stocked at S2 on July 24, 2012. Milfoil at this site was dense and made up 85% of the plant community. Weevil density at this site increased from 0.20 weevils/stem during the initial survey to 0.97 weevils/stem at the time of the follow-up survey. Milfoil density also increased over the duration of the 2012 stocking from 318.52 to 629.63 stems/m^2. Similar to S1, milfoil at this site remained 45cm below the surface of the water for the duration of the growing season. Eelgrass and water starweed were both identified at this site.

3781 DARROW ROAD, STOW, OHIO 44224
330-688-0111 / TOLL FREE: 800-940-4025 / FAX: 330-688-3858
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Weevil density at S2 at the time of the initial and follow-up surveys were higher in 2012 (initial: 0.20 weevils/stem; follow-up: 0.97 weevils/stem) than in 2011 (initial: 0.10 weevils/stem; follow-up: 0.97 weevils/stem). In addition, the amount of weevil damage observed during the follow-up surveys appeared to increase from ~10% in 2011 to ~30% in 2012. Although weevil damage and density increased in 2012, milfoil density in 2011 was lower during the initial and follow-up surveys at 118.52 stems/m^2 and 200.00 stems/m^2 respectively.

Simon Lake

- **S1** – 5000 weevils were stocked at S1. Milfoil at this site was 15cm below the surface of the water, dense and composed 70% of the plant community. Weevil density at this site consisted of 0.23 weevils/stem during the initial survey and 0.13 weevils/stem during the follow-up survey. Milfoil density slightly decreased between the initial and follow-up surveys from 670.37 to 655.56 stems/m^2. By the end of the season the milfoil was at the surface of the water and covered with a thick-filamentous algae that completely covered the surrounding bays. Canada waterweed, coontail (*Ceratophyllum demersum*), eelgrass, large-leaf pondweed (*Potamogeton amplifolius*) and fern pondweed (*P. robinsii*) were also identified at this site.

  Initial and follow-up weevil densities were lower in 2012 in comparison to 2011 where initial and follow-up densities consisted of 0.33 and 0.77 weevils/stem respectively. Conversely, weevil damage within the milfoil bed appeared to increase from ~10% of the stems damaged in 2011 to ~30% in 2012. In addition, the size of the milfoil bed appeared to be greatly reduced in size between 2011 and the initial survey of 2012. During the follow-up survey in September 2012, large mats of algae covering the majority of the lake’s shoreline made it difficult to assess the size of the milfoil patch. However, milfoil density was lower in 2011 in comparison to 2012 with an initial milfoil density of 133.33 stems/m^2 and follow-up density of 29.63 stems/m^2.

St. Charles Lake

- **S1** – 7,000 weevils were stocked at S1 over two separate dates (1,080 weevils stocked on June 15, 2012; 6,000 on June 20, 2012). Milfoil at this site was dense and composed almost 100% of the plant community prior to stocking, however Several large “holes” were observed within the site where milfoil had collapsed. Weevil density prior to stocking consisted of 0.29 weevils/stem; milfoil weevils were not present in the samples collected to determine weevil density during the follow-up survey, however, weevil larvae were observed within the milfoil bed and weevil damage was observed on ~30% of the milfoil sample collection. Milfoil density appeared to increase from 370.37 stems/m^2 during the initial survey to 522.22 stems/m^2 during the follow-up survey. Eelgrass was also identified at this site.

Weevil density during the initial survey in 2012 was higher than the initial survey in 2011 (0.17 weevils/stem), however, weevil density during the follow-up survey was lower in 2012 in comparison to 2011 (0.70 weevils/stem). Initial milfoil density was lower in 2012 than 2011 (529.63 stems/m^2). Milfoil density during the follow-up survey in 2012 was higher than the follow-up survey in 2011 (133.33 stems/m^2) and slightly lower than the initial milfoil density of 2011.

4.0 Discussion

Overall, a general increase in milfoil density and decrease in weevil density was observed over the duration of the 2012 stocking season. Although we notice increases in milfoil density, some sites have exhibited a strong positive response to weevil stocking in the 2012 season including:

- Noticeable weevil density increases were observed at both sites in Richard Lake where milfoil beds did not reach the surface of the water. Rather, these milfoil beds were observed to remain 45-50cm below the surface of the water, subsequently reducing the impact to recreational water use.
- Simon Lake showed a reduced overall milfoil bed size following the first season.
- Dramatic decline in the milfoil bed size and number of shoots reaching the surface was observed in Long Lake at S2.
- Several large "holes" were observed in St. Charles Lake within the stocking site where milfoil collapsed due in part to weevil damage.

Several sites in Long, McFarlane and St. Charles lakes all consisted of higher milfoil density and a lower weevil density following the 2012 season in comparison to the 2011 season. However, qualitative observations of weevil damage within these sites appeared to remain consistent with 2011 surveys. Additionally, 2012 has been an excellent year for both native plant and milfoil growth province-wide. This has largely contributed to the slower than expected progress of the weevil population. A mild winter combined with an early and dry summer provided optimal conditions for the milfoil to proliferate.

Fluctuations between weevil populations and milfoil density are natural and reflect the predator-prey nature of biological control. Lower density of weevils observed at several stocking sites can be attributed to the optimal conditions for increased milfoil growth in

2012. This pattern has been previously observed in a number of lakes across Michigan and other states implementing the Milfoil Solution® process. While the weevil population may have been hindered by a province-wide surge in milfoil growth this season, it is expected to increase long-term. Many factors contribute to the rate at which milfoil control to non-nuisance levels is achieved, including the amount of boat traffic on the lake, the initial amount and health of the milfoil, and the amount of weevils stocked each year. Avoiding driving through major areas of infestation as much as possible will help to reduce fragmentation and the spread of additional milfoil beds.

Milfoil is still the dominant plant species in the treatment sites but the measured stem density is expected to decrease as the augmented weevil population grows. As a biological control, the Milfoil Solution® process is most successful when introduction of the milfoil weevil occurs over multiple, successive growing seasons. Signs of milfoil suppression include reduction in density of the milfoil, maintenance of the stems below the lake surface at a non-nuisance level, and open areas within the stocking site.

A secondary effect of the process is that native aquatic plants replace the exotic milfoil as it is outcompeted and becomes a less dominant species in the plant community. Over the course of the program, areas of infestation transition into a more natural distribution of native plants, restoring a balanced lake ecology that supports a healthier fishery while improving recreational and aesthetic value. As demonstrated in Figure 1, a variety of native aquatic plant species were identified in each survey site over the course of the season. Simon Lake and Long Lake exhibit the highest species richness while McFarlane Lake, Richard Lake and St. Charles Lake exhibit moderate to low species richness.

5.0 Future Recommendations

It is the recommendation of EnviroScience/Milfoil Solution that the City of Greater Sudbury increase the number of weevils stocked in following seasons to aid in the success of the milfoil weevil stocking program. Should the City wish to address additional lakes or sites in 2013, the number of weevils included in the most current proposal must be reevaluated to adequately address the milfoil infestation. Continuation of the proposed stocking program in 2013 to stock a total of 30,000 weevils in select established sites is pertinent for multiple-year management plan for Eurasian watermilfoil. In addition, continued monitoring of the weevil population and milfoil infestation is necessary to effectively track progress and allow for annual adjustments as necessary.

Please contact EnviroScience at (800) 940-4025, or e-mail at kborrowman@enviroscienceinc.com with questions regarding this report.

Appendix A

Figure 1 Identification of Aquatic Vegetation Species

	Grant	**Long**				**McFarlane**			**Richard**		**Simon**	**St. Charles**
Plant Species	S1	S1	S2	S3	S4	S1	S2	S3	S1	S2	S1	S1
Canada waterweed (*Elodea canadensis*)											x	
Chara (*Chara* sp.)							x					
Clasping leaf pondweed (*Potamogeton perfoliatus*)												
Coontail (*Ceratophyllum demersum*)											x	
Eelgrass (*Valisneria americana*)	x	x					x	x		x	x	x
Fern pondweed (*P. robbinsii*)		x									x	
Flat-stem pondweed (*P. zosteriformis*)												
Illinois pondweed (*P. illinoensis*)												
Naiad (*Najas flexilis*)												
Large leaf pondweed (*P. amplifolius*)		x				x	x	x				
Pipewort (*Eriocaulon aquaticum*)					x						x	
Richardson's Pondweed (*P. richardsonii*)	x	x	x	x	x				x			
Small pondweed (*P. pusilus*)												
Thread-leaf pondweed (*P. filiformis*)												
Water Stargrass (*Zosterella dubia*)									x	x		
Watershield (*Brasenia schreberi*)					x							
Western waterweed (*Elodea nutalii*)			x									
White-stem pondweed (*P. praelongus*)												
White water-buttercup (*Ranunculus aquatilus*)												
White water lily (*Nymphaea odorata*)	x											
Wild rice (*Zizania palustris*)												
Total	3	4	2	1	3	1	3	2	2	2	5	1

Table 1. Weevil population analysis (weevils/stem) in Grant Lake

Site #	Parameter Measured	July 25, 2012	September 4, 2012
S1	Total weevils	22.00	0.00
	Total stems	30.00	30.00
	Avg. weevils/stem	**0.73**	**0.00**

Table 2. EWM Density (stems/m^2) in Grant Lake

Site #	July 25, 2012	September 4 2012
S1	**292.59**	**562.96**

Table 3. Weevil population analysis (weevils/stem) in Long Lake

Site #	Parameter Measured	July 23, 2011	September 15, 2011	July 6, 2012	September 4, 2012
S1	Total weevils	4.00	19.00	1.00	3.00
	Total stems	30.00	30.00	30.00	30.00
	Avg. weevils/stem	**0.13**	**0.63**	**0.03**	**0.10**
S2	Total weevils	3.00	21.00	**	3.00
	Total stems	30.00	30.00		30.00
	Avg. weevils/stem	**0.10**	**0.70**		**0.10**
S3	Total weevils	0.00	20.00	1.00	0.00
	Total stems	30.00	30.00	30.00	30.00
	Avg. weevils/stem	**0.00**	**0.67**	**0.03**	**0.00**
S4	Total weevils	0.00	22.00	**	0.00
	Total stems	30.00	30.00		30.00
	Avg. weevils/stem	**0.00**	**0.73**		**0.00**

***Site not surveyed*

Table 4. EWM density (stems/m^2) in Long Lake

Site #	July 23, 2011	September 15, 2011	July 6, 2012	September 4, 2012
S1	**403.70**	**74.07**	**525.92**	**618.52**
S2	**74.07**	**177.78**	**	**422.22**
S3	**140.70**	**148.15**	**540.74**	**651.85**
S4	**88.89**	**111.11**	**	**540.74**

***Site not surveyed*

Table 5. Weevil population analysis (weevils/stem) in McFarlane Lake

Site #	Parameter Measured	July 11, 2011	September 15, 2011	August 4, 2012	September 4, 2012
S1	Total weevils	15.00	27.00	**	3.00
	Total stems	30.00	30.00		30.00
	Avg. weevils/stem	**0.50**	**0.90**		**0.10**
S2	Total weevils	5.00	39.00	**	2.00
	Total stems	30.00	30.00		30.00
	Avg. weevils/stem	**0.17**	**1.30**		**0.07**
S3	Total weevils	5.00	17.00	0.00	9.00
	Total stems	30.00	30.00	30.00	30.00
	Avg. weevils/stem	**0.17**	**0.57**	**0.00**	**0.30**

***Site not surveyed*

Table 6. EWM density (stems/m^2) in McFarlane Lake

Site #	July 11, 2011	September 15, 2011	August 4, 2012	September 4, 2012
S1	**233.33**	**255.56**	**	**788.89**
S2	**177.78**	**325.92**	**	**777.78**
S3	**107.40**	**166.67**	**611.11**	**818.52**

***Site not surveyed*

Table 7. Weevil population analysis (weevils/stem) in Richard Lake

Site #	Parameter Measured	August 16, 2011	September 17, 2011	July 24, 2012	September 4, 2012
S1	Total weevils	13.00	14.00	5.00	26.00
	Total stems	30.00	30.00	30.00	30.00
	Avg. weevils/stem	**0.43**	**0.47**	**0.17**	**0.87**
S2	Total weevils	3.00	16.00	6.00	29.00
	Total stems	30.00	30.00	30.00	30.00
	Avg. weevils/stem	**0.10**	**0.53**	**0.20**	**0.97**

Table 8. EWM density (stems/m^2) in Richard Lake

Site #	August 16, 2011	September 17, 2011	July 24, 2012	September 4, 2012
S1	**103.70**	**111.11**	**429.62**	**685.18**
S1	**118.52**	**200.00**	**318.52**	**629.63**

Table 9. Weevil population analysis (weevils/stem) in Simon Lake

Site #	Parameter Measured	August 23, 2011	September 17, 2011	July 6, 2012	September 17, 2012
S1	Total weevils	10.00	23.00	7.00	4.00
	Total stems	30.00	30.00	30.00	30.00
	Avg. weevils/stem	**0.33**	**0.77**	**0.23**	**0.13**

Table 10. EWM density (stems/m^2) in Simon Lake

Site #	August 23, 2011	September 17, 2011	July 6, 2012	September 17, 2012
S1	**133.33**	**29.63**	**670.37**	**655.56**

Table 11. Weevil population analysis (weevils/stem) in St Charles Lake

Site #	Parameter Measured	July 30, 2011	September 14, 2011	June 15, 2012	September 4, 2012
S1	Total weevils	5.00	21.00	8.00	40.00
	Total stems	30.00	30.00	28.00	30.00
	Avg. weevils/stem	**0.17**	**0.70**	**0.29**	**1.33**

Table 12. EWM density (stems/m^2) in St Charles Lake

Site #	July 30, 2011	September 14, 2011	June 15, 2012	September 4, 2012
S1	**529.63**	**133.33**	**370.37**	**522.22**

Grant Lake
Ontario

2012 Stocking Sites

200 ft
100 m

N

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Long Lake
Ontario

2011 – 2012 Stocking Sites

200 ft
100 m

N

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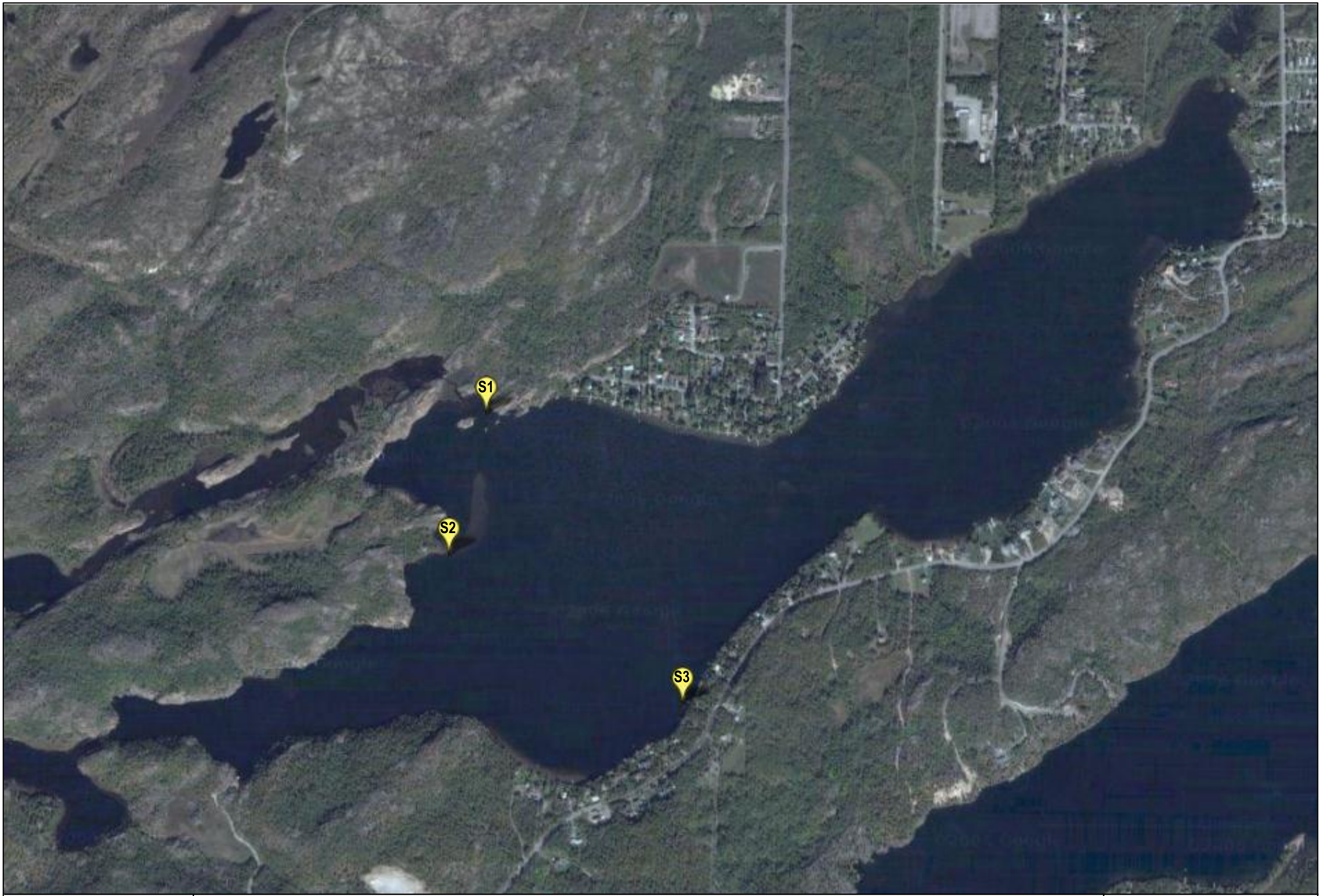


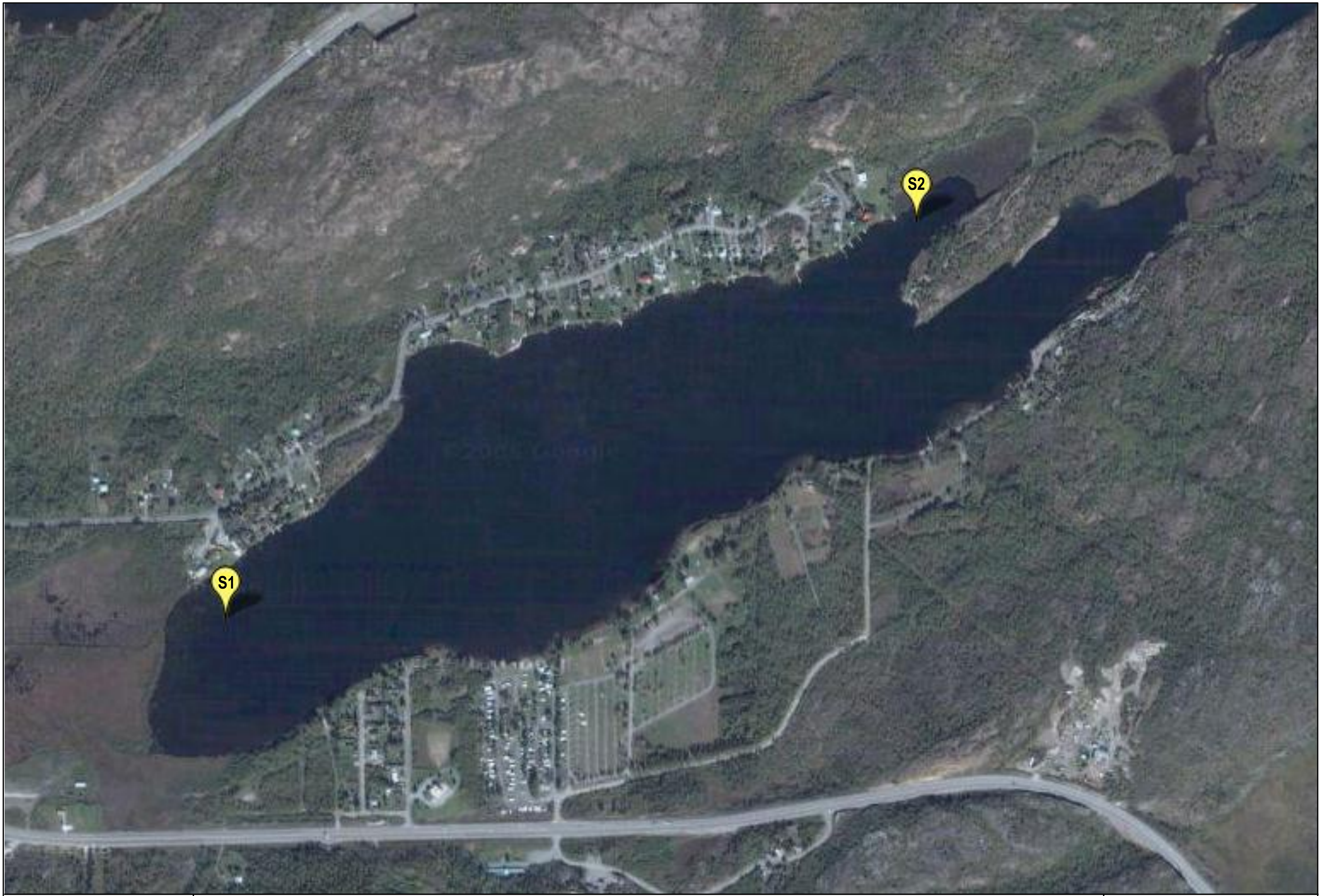
McFarlane Lake, Ontario

2011 - 2012 Stocking Sites

1000 ft
200 m

N

MILFOIL SOLUTION



Richard Lake
Ontario

2011 – 2012 Stocking Sites

1000 ft
200 m

N

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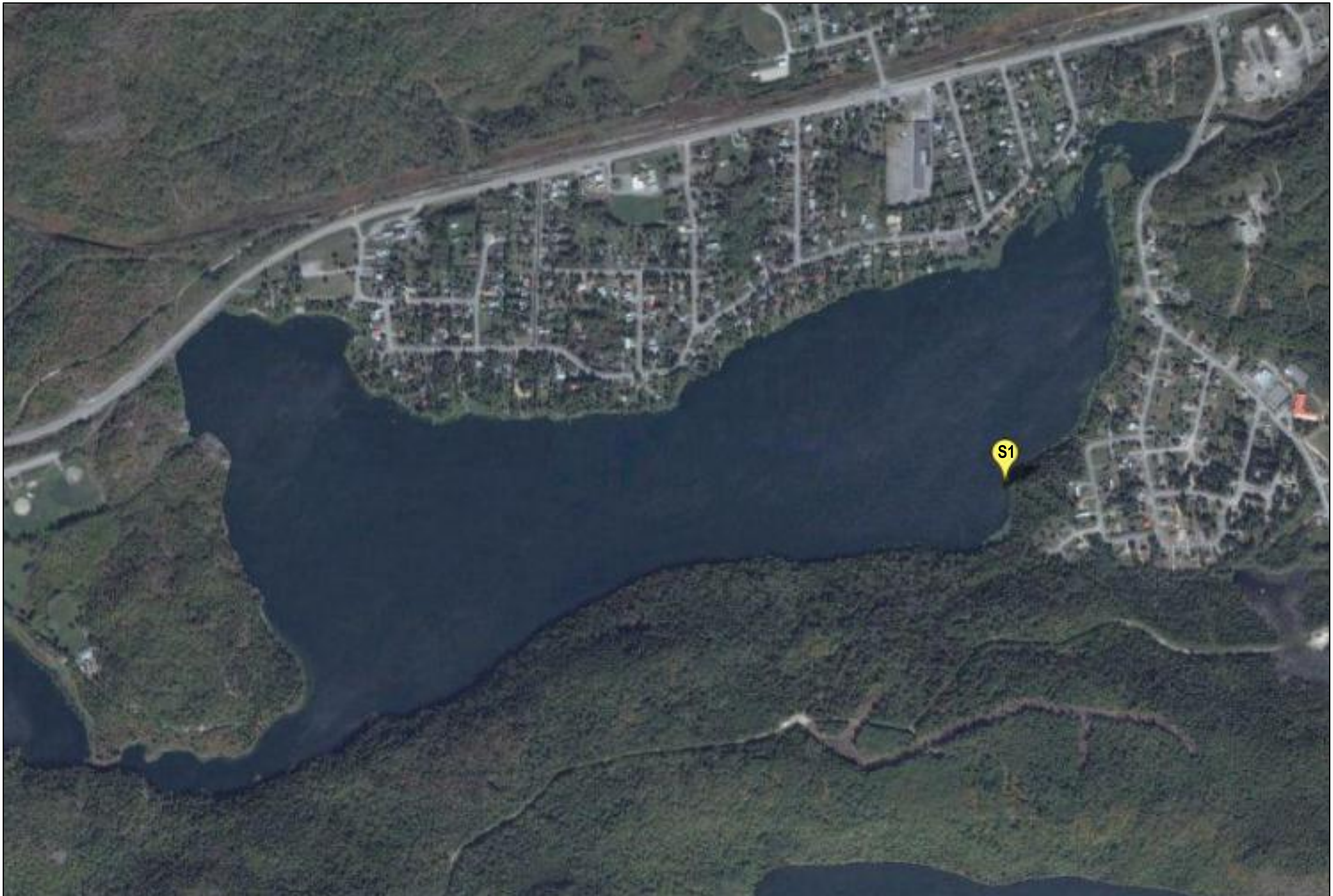

Simon Lake, Ontario

2011 – 2012 Stocking Sites

1000 ft
200 m

N

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St. Charles Lake
Ontario

2011 - 2012 Stocking Sites

500 ft
200 m

N

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