

**Experimental
Project**
**Control of Eurasian water
milfoil ears in the lake**
Lovering



Progress Report

**Manufacture of canvases and put in
the water**



**By Lucie
Terminal**
**Responsible for
project**

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THANK
YOU!

To our partners and sponsors who have believed in our project, we have placed their trust and their logistical and financial support. Without you this project would not be carried to term with as much diligence.

*The City of Magog
The municipality of the Township of
Stanstead
COGESAF
The Agency Watershed of 7
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Terraquavie Inc*

And the numerous and extraordinary volunteers

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Introduction

In the last ten years, the users of the lake Lovering find an exponential growth of a plant invasive exotic: Eurasian water milfoil. Because of the ease of propagation and especially of the density of its ramifications, the Eurasian water milfoil has a negative impact on the light, the movement of water, sediment, the oxygen concentration and phosphorus, and night as well to the development of native aquatic plants and the presence of several species of wildlife.



The stands of Eurasian water milfoil ears are also an obstacle to the use of aquatic environments by rights for recreational purposes: it can be very unpleasant and sometimes dangerous to swim and the ramifications of the plant can cling to the nautical equipment.



For the sake of searching for a solution to this problem, the Society of conservation of the lake Lovering has put in place an experimental program of control of Eurasian water milfoil in epi by application of canvases of jute at the bottom of the water on the colonies of European water milfoil (*Myriophyllum spicatum*).



In the fall 2013, a study on the assessment of the status of the swamping of the Eurasian water milfoil in lake Lovering has enabled us to determine the locations of five sites covered at 100% of European water milfoil (*Myriophyllum spicatum*) the most conducive to experimentation as well as those of 2 sites witnesses. GPS readings were recorded in order to facilitate the future location of sites in spring 2014.



This step involves the participation of the environmental advisor of COGESAF and 2 volunteers with boat.

See annex for the descriptive of sites

Obtaining certifications and authorization

Following the obtaining of certification requests submitted to the municipalities of Magog and the Canton of Stanstead, the SCLL has proceeded to an authorization request to the department of sustainable development, environment, Wildlife and Parks, in accordance with the Law on the conservation and development of wildlife.

*The certificate of authorization has been issued the
April 24, 2014*

Methodology



2000 Bags have been manufactured, bagged with sand and closed always using the machine Siruba who, this time, had been suspended on a "Gallows" for this last operation performed on the outside



We have prepared the canvases between May 8 and May 29. The MDDEP had allowed us to begin the work of putting in the water in May 31. We have made that the purposes of week to take account of the availability of our 6 divers. The first end of week, we worked during 2 days to cover only a single site. However, thanks to the expertise acquired during this first week-end, we have been able to cover the 4 remaining sites in 4 days so that we have completed the installation of paintings on 22 June.

Preparation of the canvases of jute and sand bags

In order to cover jute a total area of nearly 11 000 Square meters, it has been ordered from the firm White Lamb Finlay Inc. of Toronto, 9 bales of jute (7 ounces) of 3 000 ft x 6 ft and, to manufacture 2,000 bags, 4 rolls of jute (5ounces) of 100 yards x 30 inches. Transport Memphré has assured the major part of the cost of delivering the jute.

We have tried to sew the batts of jute with a sewing machine industrial rental but have achieved, due to the lack of flexibility and the necessity of using only small coils of wire, that it was not good for the work to be done. We therefore proceeded with the purchase of a sewing machine portable "Siruba" to chain stitch single wire usually used to close the bags. We have fixed the machine on an old cabinet with the sewing machine. It will be necessary to use a total of 42 wire coils industrial to achieve this colossal operation of couture.

Thanks to the generosity of the Sandelwood firm center manager Magog purchases, we had a chance to settle down for a month and a half in the large room in the former warehouse of Zellers . So we could undo the bundles and extend the jute cut into predetermined lengths . We have assembled all 3 widths of 6 ft wide for optimum width of 17 ft and have then produced of canvases whose length ranged between 60 ft and 300 ft. To do this, according to the principle of a work to the chain, a minimum of 4 people circumscribed the seamstress to prepare and submit on large tables section of the canvas sewing thread then that other person, as the seam was completed, special rapporteur the canvas on rolls of cardboard provided by the enterprise Terraquavie.

Technical development to the water of canvases

In order to correctly guide the intervention of the laying of the canvases on individual sites, we have delineated the contours using temporary buoys, assisted by the marked points GPS established in the fall 2013.

We have faced a few challenges during the first updates to the water of canvases! We designed an apparatus which consisted of a raised base and installed on a floating dock itself attached to a pontoon. Of cranks allowed to unroll the canvas. When backing up the pontoon, canvas ballasted to its end of pockets of sand would gradually have to unroll. But we quickly realized that the canvas does not wetting quickly enough and that it does not it filled. The divers should provide considerable efforts to pull and place the canvas at the as. In addition, it was very difficult to keep the correct trajectory to the pontoon which was drifting away under the effect of the wind.

After a few trials and errors, we have adjusted and the technique adopted is the following:

- - We inserted a metal rod on the inside of the cardboard tubes on which are wound of sections of jute (17 ft x 60 to 300 ft) and is attached to the ends of the rod ferrules with loops/hooks. We remove these rollers on a floating dock as amended which itself will be moved on the sites to cover. This operation requires the help of several people because of the high weight of the large rolls
- - Subsequently, it "ballasted" the end of the canvas by attaching pockets of sand and it fixed a rope on the end caps, rope which will be connected to a motorized boat.
- - Roll of jute is entirely immersed in the water and the divers help to the soak to push it down to the bottom of the water. The motorized boat pulls the roller with the ropes to do is deploy on the bottom of the lake while the divers direct the vessel to ensure that the canvas overlap correctly and leave not of space between them.
- - As the conduct of the canvas, the divers also place buoys marks throughout the external boundary of the new jute as the guide for the boat when installing the jute next. Rowboats filled with sand bags follow the divers to drop the sand bags which will serve to maintain the canvases in place.



Monitoring

A biologist-diver has accompanied the team throughout the work of put in the water. He was able to make observations on the presence of Eurasian water milfoil which had already had time to push in abundance. The stems of Eurasian water milfoil have been measured; some had reached 60 inches

The levies of sediment have been made before installing the canvas to allow to check, at the end of the summer, if the decomposition of the Eurasian water milfoil will cause a surplus of phosphorus has merits of the water.

On three occasions during the summer, the biologist will conduct a timely monitoring on the sites and will reap information on the presence of the Eurasian water milfoil, the status of the canvases, the temperature of the water and the calibration of the dissolved oxygen, as well as on the presence of wildlife species. The models of fact sheets which will be used to compile the data are in the appendix. These same observations will be repeated during the summers 2015 and

2016. Already, our biologist has been able to make a few observations, here is his report.



When webs are installed on a site, there are reports of the location using a buoy which informed the boaters of the existence of the project and that, to protect the paintings, the invited to circulate at a reduced speed, not to fish or driving their boats in position climb.



Summary of the first comments made the June 27, 2014.

State of canvases

The canvases are in very good condition, however there are several folds inflated. These declines are probably forms during the installation, but it is also possible that the canvases have moved a little because of the waves. A lot of European water milfoil (*Myriophyllum spicatum*) have been crushed under the canvas during the installation, therefore the decomposition of this whole organic matter could create pockets of air and lift the canvases later in the summer.



Native plants and water milfoil

Several seedlings of potamogeton zosteriforme already pushing them through the canvases to sites A, D and F. There is no plant through the canvases to sites B and C, probably because it is in these areas that the paintings have been posed in last, so the plants have not yet had the time to push. Only a few seedlings of Eurasian water milfoil have pushed through the canvases, by against there are a lot of Eurasian water milfoil between the paintings that have been poorly blended. In effect, it was difficult sometimes to ask the canvases so that there is a superposition of a sufficient length with the previous canvas. So sometimes there is a space between the paintings or the bed is exposed and the Eurasian water milfoil is very present at these places.

Administrative Report

Respect of the budget

Thanks to the participation of many volunteers, we have been able to meet the projected budget and this in spite of unforeseen costs attributable to a command of jute or additional billing of COGESAF for the aid to the location of sites. DATED JULY 8, 2014, we disbursed 16 987.51 \$. On the other hand the work of the volunteers has been estimated to be 28 145.00 \$. The detailed budget is in the annex.

A few statistics

<i>Number of volunteers</i>	60, INCLUDING 6 divers 1,900 Hours or:
<i>Volunteer Hours</i>	- 765 Hours for the preparation of Canvases and bags located on 16 days - 960 Hours for the upgrade to the water Spread over 5 days - 180 Hours of diving
<i>Jute for the canvases</i>	9 bales
<i>Sand Bags</i>	2000
<i>Sand</i>	1.5 Trip
<i>Wire Used</i>	42 Coils
<i>Bottles of washer used as</i>	
<i>Temporary Buoys</i>	100

Comment [RP1]: Very low labour rate

The time devoted to preparatory steps (ex: requests for permits, secretariat), the travel time to obtain all the required supplies for the manufacture of the canvases and the upgrade to the water are excluded from this compilation.

In conclusion

The Society for the conservation of the lake Lovering believes that this project will have the effect of decreasing the surfaces covered by the Eurasian water milfoil and this fact will minimize the risk of spread by transplantation of sections of cut stems during human activities. There will be less of surfaces covered by this plant, plus the life wildlife and plant of the lake will benefit.

In addition, through the demonstration of the usefulness of this method of control of the Eurasian water milfoil to ears, the SCLL hopes that the ministry of the Environment will consider the possibility of allowing the riparian residents to apply backdrops of jute on the bottom of the lake before their properties, where it is demonstrated that the Eurasian water milfoil occupies the space at 100 %. Permits could be issued by the municipal authorities who would follow up.