



To Sustain And Enhance Our Lake For Future Generations

December 1, 2017

Anna Kessler  
Project Manager  
Canadian Environmental Assessment Agency  
Sent via email: [anna.kessler@ceaa-acee.gc.ca](mailto:anna.kessler@ceaa-acee.gc.ca)

Dear Ms. Kessler,

Thank you for your letter dated November 17, 2017 and the attachments - Common Ground Channel Drainage Channel Diversion reports.

The Last Mountain Lake Stewardship Group (LMLSG) was formed in 2002 as the result of concerns expressed by the cottagers and residents of (perceived) effluent entering Last Mountain Lake (LML). A group of volunteers began regular meetings to discuss what we could do to ensure that LML remain a non-polluted and healthy ecosystem.

Our mission is "To Sustain and Enhance our Lake for Future Generations". Our goal is to steward and monitor the health of Last Mountain Lake, while sustaining the resources for the communities that depend on them. We are registered as a charitable non-profit organization. Below is a list of some of the programs we have put in place since 2002.

- Developed and presented educational program throughout resort villages around LML; hosted workshops at local schools and community centers providing educational material, brochures etc. on how to maintain a healthy eco-system at the lake.
- Developed a Communication Strategy program that outlines eco-friendly choices for lakeside property owners and contractors when developing properties along Last Mountain Lake.
- Created a Fuel Spill Recovery Program, introducing a new methodology of removing hydrocarbons from water. This program instructed marina staff how to safely contain and remove spilled fuel from the water; and provided education and (free) equipment to boaters to reduce and remove petroleum accidentally spilled into the lake.
- Developed a Water Quality Monitoring Program that would effectively measure both the chemical and biological conditions of the lake water. This program enabled us to monitor the quality of our lake water, with the goal of early identification of water quality stressors and to create a historical database for future generations.

In August 2015 we attended several open house meetings held by the Water Security Agency (WSA), where they presented the Kutawagan Diversion project. Our research showed the diversion of highly saline water from the Quill Lakes through Kutawagan Lake and downstream would be disastrous to water quality in LML. We strongly objected to this proposal with facts and documentation and demanded that an independent Environmental Impact Assessment be completed prior to approval. In September 2015 the Kutawagan Diversion project was cancelled by the Minister Responsible for Water Security Agency. It was later announced that WSA would be enforcing regulations to close unapproved drainage works that contribute water to the Quill Lakes. Landowners with unapproved drainage works were required to close the ditches by October 1, 2016 or be subject to penalty. Illegal drainage into the Quill Lakes continues to date. WSA has not issued a single fine for the illegal works.

You can imagine our concern this summer, when we learned of a new diversion plan from the Quill Lake Watershed Basin, the Common Ground Drainage Diversion project. This new plan is not unlike the old one. Our position remains the same, their plan to divert water that is loaded with Total Dissolved Solids (TDS), especially such a high concentration of saline, from the Quill Lake Basin into LML will be disastrous to fish, wildlife habitat and aquatic plant life. An Environmental Impact Assessment is required.

The Last Mountain Lake National Wildlife Area (NWA), located at the north end of LML, will be largely affected by this water diversion plan. NWA will be the entry point of degraded, highly salinated water and will potentially affect many aspects of the natural environment including fish, wildlife and aquatic plants, while negatively impacting the use of water for local and regional livelihoods including fishing, hunting and recreational uses.

The NWA has been officially recognized as a special place for wildlife due to its good habitats, as one of the most productive lakes in southern Saskatchewan; and its strategic location in the heart of the central flyway of North America.

The NWA is a major fish spawning area for pike and walleye. LML is a large recreational lake and hosts several fish derbies during both summer and winter seasons. Sport fishing on Last Mountain Lake is a major attraction to both local fisherman and tourists from across the country.

The Migratory Bird Sanctuary, (MBS), located within the NWA, is North America's first bird sanctuary. Since 1887 this area has been a protected wetland for over 280 species of birds during migration and a breeding site to 100 species. It provides habitat for 9 of Canada's 36 species of endangered birds.

The drainage diversion channel will flow through Pel Lake and Kutawagan Lake, (TDS 4000 to 5000 mg/L or higher, depending on lake levels). The measured average TDS in Last Mountain Lake is 1400 mg/L. As the high saline water travels towards Peter Lake downstream to LML, nitrates and phosphorous from agricultural runoff will be absorbed and picked up along the way. The entry point of the diverted water at the northern end of LML, will drain into the NWA, contaminating the protected wetlands there. The density of wetlands will trap and hold contaminants before water moves downstream to the main waterbody.

The QLWA refers to this diversion as "fresh water" diversion. We (LMLSG) do not agree. In fact, the Water Security Agency reported in their document titled, *QLWA Kutawagan Channel Phase 1 Design Report Downstream Water Quality Assessment* dated June 2017, "An assumption made in the QLWA application is that water quality in the area is fresh (Pel and Kutawagan lakes and surrounding unnamed water). This assumption is incorrect. Salinity in Pel Lake is presently similar to or greater than that in Big Quill Lake (9000 to 11,000 mg/L.)"

In the photo below you can see the salt flats on Pel Lake left behind when the water receded, revealing a salty crust on the ground.



The introduction of saline into a fresh waterbody is irreversible. The damage to fish habitat would be disastrous and also irreversible.

The introduction of additional TDS into our lake will be destructive to the fish population. High levels of saline have a negative effect on fish development, fish growth and fish reproduction. As a result we will see a reduction in fish population on LML.

Excessive chloride, (exists in TDS), even in short term exposures can lead to lethal effects on aquatic life.

Ammonia can block oxygen transfer in the gills of fish, thereby causing immediate and long term gill damage. Alarmingly, as this water flows through ammonia rich farmland towards LML, ammonia levels are likely to increase.

Nitrogen and phosphorus are leading causes of eutrophication and will surely increase the number and intensity of algae blooms on LML. High levels of algae reduce water clarity and can lead to decreases in available dissolved oxygen as the algae decays, conditions that can be very detrimental to game fish populations.

More and more studies are being done on algae bloom to determine the danger to health and well-being. Please refer to the link below.

<http://www.cbc.ca/news/canada/manitoba/lake-winnipeg-neurotoxin-algae-1.4425674>

LML is one of the busiest recreational lakes in southern Saskatchewan. With more than 40 resorts/villages along its shorelines, and approximately 8000 lake users during the summertime, LML provides boating and swimming activities to families and tourists alike.

Several resort villages use lake water as a source for household consumption. This proposal would place great hardship on these families.

The Common Ground Diversion plan threatens the water quality of LML. Additional pollution from the proposed diversion will limit family recreation. Our sport fishing industry will suffer. It is imperative we maintain our natural resources for the benefit of future generations.

The KGS Consulting Group was commissioned by Water Security Agency to complete a study on flood mitigation options that would address the rise of water levels in the Quill Lakes. The report contained six mitigation strategies with two or more options in each.

1. **Hold water in Quill Lakes** – Retain water in one or both of the Quill Lakes via the construct of a containment dike.
2. **Inflow Diversion** – Construction of a diversion channel would ideally stabilize and eventually reduce long-term Quill Lake levels by diverting some of the tributary inflows away from the lakes.
3. **Upland Storage** – Twelve potential upland storage areas have been identified as potential locations to store water.
4. **Removal of Water from Quill Lakes** – Five options for removing water from the Quill Lakes and discharging it to another location were considered, including: 1) The Landowner Proposal, 2) deep well injection, 3) pumping water to another watershed, 4) withdrawing water for the BHP Jansen Lake Mine and the Karnalyte Potash Mine.
5. **Inflow Reduction** – Two options were considered to reduce the inflow to the Quill Lakes: 1) restoration of partially drained and drained wetlands and 2) closure of drainage works.

6. **Legislative Policy** – Four legislative policy options for flood mitigation on the Quill Lakes were considered, including 1) drainage enforcement, 2) a drainage moratorium, 3) development of a watershed management policy and working group and 4) responsible drainage plans.

I have attached a copy of the Executive summary from the KGS report which describes these mitigation options in more detail.

The strategy chosen by the QLWA was “Removal of Water from Quill Lakes” and the option they chose was “pumping water to another watershed”. In our letter to QLWA dated August 14, 2017, we recommended three other options which would not only resolve the high water levels but eliminate the danger of deleterious substances entering Last Mountain Lake.

1. Drainage Enforcement
2. Upland Storage Options
3. Withdraw Water for Potash Mines.

We did not receive any response from QLWA regarding our recommendations. Drainage enforcement is of utmost importance. The KGS report states agricultural drainage accounts for 38% of the rise in Quill Lake high water levels. This environmental disaster would not be happening if WSA enforced drainage closures.

LMLSG is concerned about the lack of transparency from QLWA regarding the Common Ground Drainage Diversion Project. On July 11, 2017 we attended a meeting where Kerry Holderness presented the Common Ground Diversion plan. At that meeting he referred to diverting flow from three creek systems into a channel before it can enter Quill Lakes. (Letter attached). We were not provided with engineered plans or drawings, nor were we told about the 25 km ditch from Pel Lake downstream. Kerry Holderness was recently invited to speak at a meeting at one of the resort towns on LML. Kerry declined the invitation. The Common Ground Design Reports you included with your letter are the first documents we have seen regarding the details of this proposal.

On October 20, 2017 we learned of a letter from the Ministry of Environment to Kerry Holderness, dated September 8, 2017, advising that an Environmental Impact Assessment would not be required to proceed.

The vagueness of this proposal by QLWA, the absence of public input on a project that affects such a large population of stakeholders in the Qu’Appelle Valley from Last Mountain Lake to Round/Crooked lakes, the threat of deleterious substance entering our lake and river systems posing danger to our fishing industry, plant and wildlife habitat, nature refuge wetlands, and recreational and tourist industry, demonstrates the need for an independent Environmental Impact Assessment.

I trust this information is helpful.

Sincerely,

Sherry Forsyth  
Last Mountain Lake Stewardship Group  
C/O PO Box 951  
Lumsden SK S0G 3C0  
[sherry.forsyth@gmail.com](mailto:sherry.forsyth@gmail.com)