



JACKFISH LAKE MANAGEMENT ASSOCIATION

We, the Jackfish Lake Management Association (JLMA), are seeking a motion from Parkland County, AB for authorization to submit an application for a temporary diversion license (TDL) to the Alberta Energy Regulator (AER) to enable the Jackfish Lake Association to divert water from the North Saskatchewan River to Jackfish Lake to revitalize and restore the water conditions as it was years ago.

As you may be aware, Jackfish Lake has faced a number of complications due to low water volumes, including but not limited to, blue-green algae (attached document) and a recent winter kill that destroyed numerous aquatic life as you will see in the picture below.



As you will see from the following historical data charts illustrating the water loss in Jackfish Lake, the lake has lost over 2 metres of water in the last 20 - 30 years due to a lack of precipitation and increased annual temperatures and therefore creating these severe issues. This has clearly had a very damaging effect on the environment and ecosystem of Jackfish Lake, and is the main cause for the blue-green algae and the winter kill that occurred in the winter of 2015/2016.

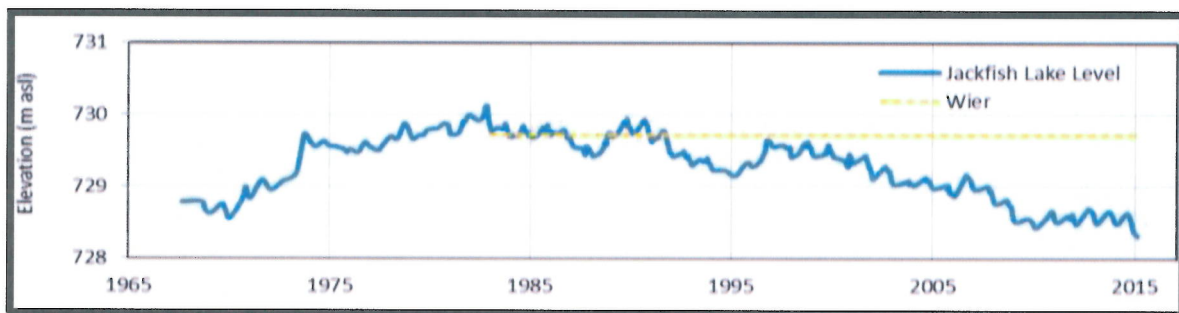


Figure 47. Water levels from 1968-2013 for Jackfish Lake measured in meters above sea level (masl). The gold dotted line indicates the weir elevation (data from Alberta Environment and Parks, 2015b).



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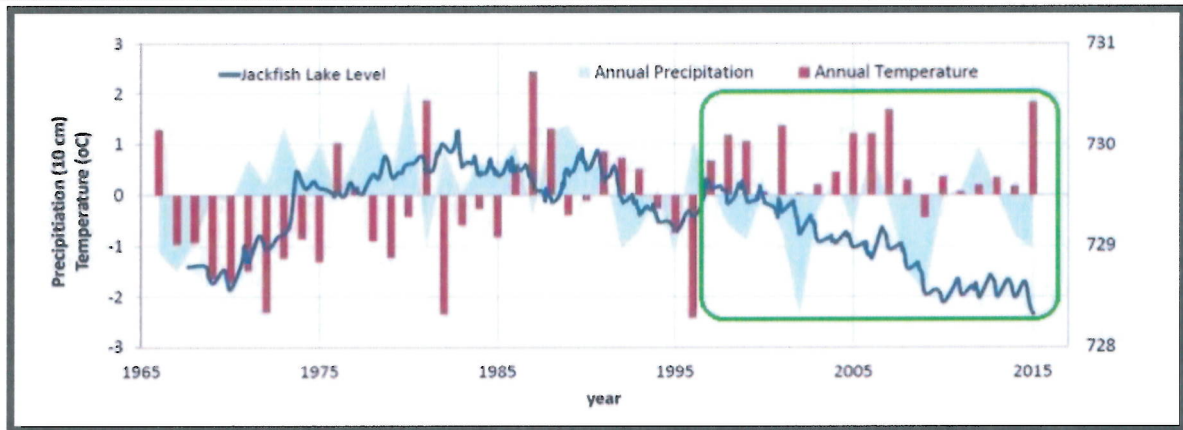
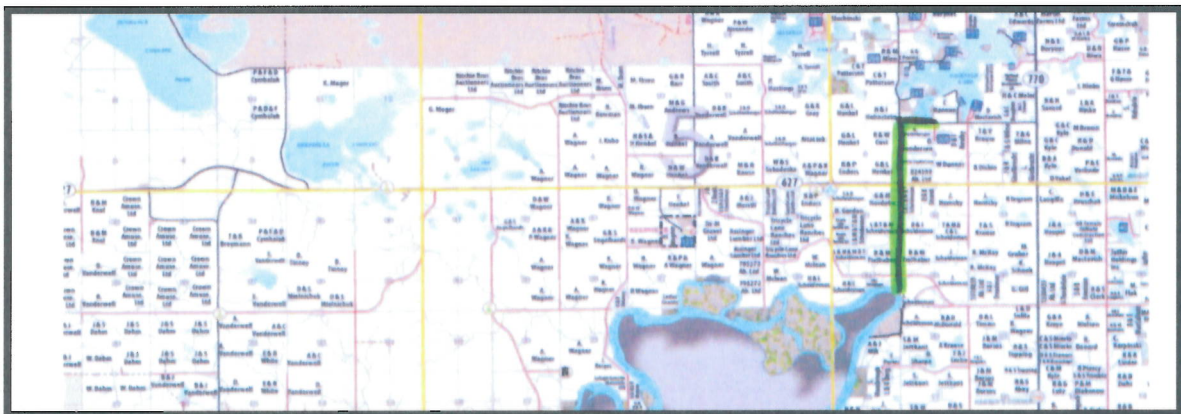


Figure 48. Jackfish Lake water levels compared to annual precipitation and temperature at Stony Plain (data from Alberta Environment and Parks, 2015b and Environment Canada, 2015)

We, the Jackfish Lake Association, along with biologist Ray Makowecki, M.Sc., M. Sc., B. Ed., P. Biol., QAES, have started a plan to divert water from the North Saskatchewan River to Jackfish Lake, AB, which our biologist is optimistic that it will help manage some of the problems including the blue-green algae and reduce future winter kills that will negatively affect the aquatic life and ecosystem of Jackfish Lake. Please see the attached map below (larger map attached) for the access point that we have proposed to draw the water from the North Saskatchewan River and the access point that the water will enter Jackfish Lake.



We, the Jackfish Lake Management Association (JLMA), are wanting to help stabilize the Jackfish Lake water conditions and furthermore, revitalize and restore the water conditions as it was years ago. We are seeking a motion from Parkland County, AB for authorization to submit an application for a temporary diversion license (TDL) to the Alberta Energy Regulator (AER) to enable the Jackfish Lake Association to divert water from the North Saskatchewan River to Jackfish Lake. Do we have your motion to move forward with our plan to submit an application to the AER in order to create a sustainable environment for the Jackfish Lake community?



Via email: ray@enviromak.com

June 10, 2016

Ray Makowecki, M.Sc., B. Ed., P. Biol., QAES
Principal, EnviroMaK
101 18331 105 Ave NW
Edmonton AB T5S 2K9

Dear Mr. Makowecki:

**Re: Pre application meeting regarding proposed Jackfish Lake stabilization project in
Parkland County**

Thank you for meeting with us on May 11, 2016 at Environment and Parks, Spruce Grove office with the following in attendance:

Jackfish Lake Management Association: Ken Horn, James Fasek and Mike Evans

Semple Corporation: Mike Semple

Parkland County: Nick Bronetto and Gabriel Clarke

Environment and Parks: Neil Hollands, Dave Mussell and Andrew Patton

We understand the project to be a seasonal diversion from the North Saskatchewan River to Jackfish Lake to supplement water levels, which have been declining in recent years and are reaching critical levels affecting the health and recreational viability of the lake.

Water Act and Public Lands Act

Any diversion of water or activity within the North Saskatchewan River will require authorizations under the *Water Act* and *Public Lands Act*

As discussed in the meeting, a responsible party is required for the project that is a legal "person" as defined in the Acts. The responsible party must have the capacity to manage the project and be legally accountable for the operations of the project.

There are four key requirements that must be met for the proposed project to be considered:

- A demonstrated need for the project
- An available supply of water
- No or minimal adverse environmental impacts or fisheries impacts
- Legal access for works

Please ensure the application includes at a minimum an assessment of potential water sources, water balance calculations, volume and rates of diversion, landowner consents, construction methodologies, siltation and erosion controls and contingency plans. Any diversion or erosion protection works within the North Saskatchewan River will need to be designed by a

Professional Engineer. Please note: a public notice will be a requirement for the *Water Act* applications.

The following factsheets may be of assistance:

Public Lands Act and *Water Act*: Shoreline / Waterbody Modifications Facts at Your Fingertips
<http://aep.alberta.ca/water/education-guidelines/documents/ShorelineWaterBodyModifications-Oct2015.pdf>

Water Act licences: <http://aep.alberta.ca/water/education-guidelines/documents/WaterActLicences-FactSheet.pdf>

The *Public Lands Act* manages crown land and owns the bed and shore of Jack Fish Lake. The legal bank of the lake is a natural boundary that changes based on natural fluctuations of water levels. The proposed stabilization project may impact the legal bank of the lake and have ramifications for private landowners adjacent to the lake. Further discussion regarding crown land and private land can occur once the scope and duration of the project are better known.

In addition to the *Water Act* and *Public Lands Act*, there are requirements under other provincial legislation, including the following:

Fisheries Act and Wildlife Act

As discussed the proposed diversions must not cause a hazard to fisheries or wildlife. Please contact Owen Watkins, Fisheries Technician, 780-960-8189 regarding this Act.

Municipal Government Act

The project will require authorization from Parkland County. Please contact Nick Bronetto, Supervisor Development Engineering Services, 780-968-8888 ext. 8388 regarding the County requirements.

Transportation Act

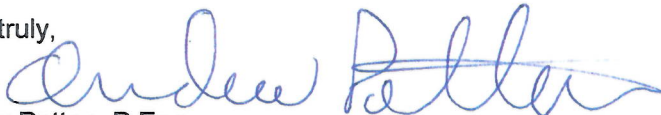
Any crossing of the provincial highways will require a permit from Alberta Transportation. Please contact Stephen Legaree, Environmental Coordinator 780-643-1525 regarding this Act.

Indigenous Consultation

The diversion will require consultation please see the following weblink to begin this process <http://indigenous.alberta.ca/1107.cfm>. Please contact Kevin Morton, Indigenous Relations, 403- 340-7747 if you have questions regarding this process.

There may be Federal requirements, such as Fisheries and Navigable Waters; please contact the appropriate Federal Departments to determine their requirements.

Yours truly,



Andrew Patton, P.Eng.
Water Engineer

cc via email:

Ken Horn: khorn@teedrum.com

Mike Semple: mike@semplecorp.ca

Nick Bronetto: nbronetto@parklandcounty.com

August 11, 2015

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Blue-green Algae (Cyanobacteria) bloom advisory issued for Jackfish Lake

EDMONTON – A blue-green algae (cyanobacteria) bloom has been identified in areas of Jackfish Lake. Residents living near the shores of this lake, as well as visitors to this lake, are advised to take the following precautions:

- **Avoid all contact** with blue-green algae (cyanobacteria) blooms. If contact occurs, wash with tap water as soon as possible.
- **Do not swim or wade** (or allow your pets to swim or wade) in any areas where blue-green algae (cyanobacteria) is visible.
- **Do not feed** whole fish or fish trimmings from this lake to your pets.
- Consider limiting human consumption of whole fish and fish trimmings from this lake, as it is known that fish may store toxins in their liver. (People can safely consume fish fillets from this lake).

As always, visitors and residents are reminded to never drink or cook with untreated water directly from any lake, including Jackfish Lake, at any time. Boiling lake water will not remove the toxins produced by blue-green algae (cyanobacteria). An alternate source of drinking water should also be provided for pets and livestock, while this advisory is active.

Blue-green algae (cyanobacteria) is naturally occurring, and often become visible when weather conditions are calm. Appearing like scum, grass clippings, fuzz or globs on the surface of water, blue-green algae (cyanobacteria) can be blue-green, greenish-brown, brown, and/or pinkish-red, and often smell musty or grassy.

People who come in contact with visible blue-green algae (cyanobacteria), or who ingest water containing blue-green algae (cyanobacteria), may experience skin irritation, rash, sore throat, sore red eyes, swollen lips, fever, nausea and vomiting and/or diarrhea. Symptoms usually appear within one to three hours and resolve in one to two days. Symptoms in children are often more pronounced; however, all humans are at risk of these symptoms.

Weather and wind conditions can cause algae blooms to move from one location in the lake to another. As such, this advisory will remain in effect for Jackfish Lake, until further notice.

Please note that areas of Jackfish Lake in which the blue-green algae (cyanobacteria) bloom is NOT visible can still be used for recreational purposes, even while this Blue-green Algae (Cyanobacteria) Advisory is in place.

If you suspect a problem related to blue-green algae (cyanobacteria), or if you require further information on health concerns and blue-green algae (cyanobacteria), please call Health Link at 811. Additional information is also available online, at www.albertahealthservices.ca/bga.asp.

Alberta Health Services is the provincial health authority responsible for planning and delivering health supports and services for more than four million adults and children living in Alberta. Its mission is to provide a patient-focused, quality health system that is accessible and sustainable for all Albertans.

For media inquiries, contact:
Tahneen Luedee
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