



July 23, 2019

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Hon. Carolyn Bennett

Minister of Crown-Indigenous Relations
and Northern Affairs Canada
Government of Canada
[via email: carolyn.bennett@parl.gc.ca]

Hon. Lorne Kusugak

Minister of Community and Government Services
Government of Nunavut
[via email: lkusugak@gov.nu.ca]

Dr. Michael Patterson

Chief Medical Officer of Health
Government of Nunavut
[via email: mpatterson@gov.nu.ca]

Reference: City of Iqaluit Potable Water Shortage Emergency Contingency Plan

Note: This letter replaces the July 15th letter to Minister Bennett

Dear Minister Bennett, Minister Kusugak and Dr. Patterson:

On July 10, the City of Iqaluit wrote to the Nunavut Water Board, the Chief Medical Officer of Health and to Minister Kusugak to notify them that the City is facing a potable water shortage. The situation arises because the City's water supply (Lake Geraldine reservoir) has not recharged following spring melt and will not be full prior to freeze-up, and the ongoing regulatory process to amend the City's water licence to permit additional water to be taken from the Apex (Niaqunguk) River, will not be completed in time to supplement water in 2019.

In response to the letters, Dr. Patterson outlined the consequences to public health of not providing adequate water supply (Attachment A), and the NWB initiated a process to review an application made by the City to amend its water licence to allow supplementation in 2019, while a public review of the application to supplement from Apex River for the term 2019 to 2026 is underway.

Since the exchange of this correspondence, ongoing exceptionally dry conditions have resulted in flows in local watersheds and water levels in the reservoir that are below historic low levels. Supplementation of potable water from the Apex River alone is not likely to be sufficient to fill the reservoir before winter. Approval to take additional water from another source is urgently and imminently needed as a

contingency to ensure the reservoir can be filled prior to winter to avoid a potential impact to public health.

On behalf of the City of Iqaluit, I am asking you as the relevant territorial and federal Ministers, to recognize the potable water shortage situation as an Emergency, so that the relevant provisions of the *Nunavut Planning and Project Assessment Act* and *Nunavut Waters and Surface Rights Tribunals Act* can be invoked. This will be used to seek approval directly from the Nunavut Water Board to obtain water from the Apex River immediately, and from an additional source called "Unnamed Lake".

I have attached information that provides more detail of the criticality of the situation, the ongoing regulatory process and the proposed plan to obtain sufficient water to supplement the City's reservoir prior to October 2019. Please do not hesitate to contact me if you have any questions or require additional information.

Thank you,



Madeline Redfern
Mayor of Iqaluit

Cc. Amy Elgersma, Chief Administrative Officer (City of Iqaluit)
Matthew Hamp, Director of Engineering and Public Works (City of Iqaluit)
Spencer Dewar (Crown-Indigenous Relations and Northern Affairs Canada)
Deputy Minister Constance Hourie, Community and Government Services
(Government of Nunavut)
Michele LeBlanc-Havard, Territorial Environmental Health Specialist
(Government of Nunavut)

Attach: A: Letter from Chief Medical Health Officer to City of Iqaluit
B: Additional Information

ATTACHMENT B: ADDITIONAL INFORMATION

BACKGROUND

The City relies entirely on the Lake Geraldine reservoir to obtain its potable water. The reservoir recharges naturally during spring and summer from snowmelt and precipitation. During winter months, the reservoir does not recharge; therefore, the reservoir must have enough water in it at the onset of winter to supply the City's needs until the following spring. Due to recent City growth and increased water demand, the City has recognized that the reservoir must be full prior to the onset of ice cover in order to provide enough water to meet the City's demands throughout winter. Where the reservoir does not refill naturally, additional supplementation of the reservoir is needed.

The available water in the reservoir during winter (October to May) is approximately 1,095,500 cubic metres (m^3); (Nunami Stantec, 2019). The City's overwinter demands during 2016 to 2019 have averaged 3,413 m^3 per day, or 103,535 m^3 per month, with maximum overwinter demand of 920,000 experienced in winter 2017-18 (October to June). Assuming the 920,000 m^3 demand for water over the winter period is actualized, approximately 170,000 m^3 of water remains available in the reservoir at the end of winter *if the reservoir is full at the onset of winter*. This volume does not leave a factor of safety to account for higher winter demand, longer winter, or emergency water use (such as firefighting).

In 2018, a shortage of available over-winter water was predicted based on a water balance model (Golder 2018). The Chief Medical Officer of Health responded by directing the City to supplement its water supply in order to avoid a public health emergency. The City established a Task Force consisting of federal, territorial and local entities to identify and initiate actions to: (1) repair leaks in the City's water distribution system; (2) initiate a campaign of water conservation; and, (3) implement a water supplementation project. To supplement water, the City immediately notified the Nunavut Water Board (NWB) of its intent to apply for an amendment to its water licence and initiated the regulatory approvals process under the emergency provisions of the *Nunavut Planning and Project Assessment Act* (NUPPAA) and *Nunavut Waters and Surface Rights Tribunals Act* (NWSRTA). A one-time amendment to the City's water licence was granted by the NWB and approved by Minister Bennett, as Minister of Crown-Indigenous and Northern Affairs Canada (CIRNA) on August 18, 2018, and a Fisheries Authorization from Fisheries and Oceans Canada (DFO) was obtained on August 16, 2018. Water withdrawal from the Apex River began on August 19 and continued to September 17, 2018. Approximately 194,000 cubic metres of water were transferred from the Apex River to Lake Geraldine. The program was ended once the reservoir was full, with monitoring continuing until September 24, 2018. No adverse effects to fish or fish habitat were observed.

In the approval of the water licence in 2018, Minister Bennett indicated that the City would need to apply again under the regular mechanisms of the NWSRTA, if supplementation were to be needed again in future years. The NWB advised that this application process should be initiated as soon as practical. After completing post-program summary reporting required by DFO and Minister of CIRNA, the City initiated the application process for a longer term approval of a project to supplement water from the Apex River as a temporary measure while it researches, designs and implements permanent supplemental water storage and supply. In November 2018, the City completed a review of the 2018 project and developed designs for a new overland pipeline route. In December 2018, the City began its engagement with residents of the City of Iqaluit and Amaruq Hunters and Trappers Association (HTA) on its proposal to continue with supplementation from Apex from 2019 to 2026. In late December 2019, the City submitted its project proposal to the Nunavut Planning Commission, thereby initiating the review of the Apex Drinking Water Supply Project. A screening of the project by the Nunavut Impact Review Board began February 14, 2019, with a screening decision issued April 14, 2019.

Concurrent with the NIRB screening, the City applied to the NWB to amend its water licence for the period 2019 to 2026 to supplement from the Apex River annually from 2019 to 2026. The NWB is currently undertaking a public review of this application, including an application to supplement from the Apex River on an emergency basis in 2019, prior to conclusion of the Public Hearing phase such that supplementation can begin immediately.

THE APEX RIVER ALONE MAY NOT PROVIDE SUFFICIENT SUPPLEMENTAL WATER IN 2019

As has been the basis of the City's request to the NWB to approve supplementation from Apex River immediately, the City is likely to face an overwinter shortage of potable water in 2019-2020 without supplementation. Further to this, and as an emerging situation, **the Apex River alone may not be able to provide sufficient water to supplement Lake Geraldine Reservoir in 2019.**

As of July 22, 2019, flows in the Apex River are below historical minimums for this time, as based on a 35-year historical record, and are below 30% of mean annual discharge (MAD) (Figure 1). Federal guidelines for protection of fish stipulate that withdrawals should not occur when flows are less than 30% MAD.

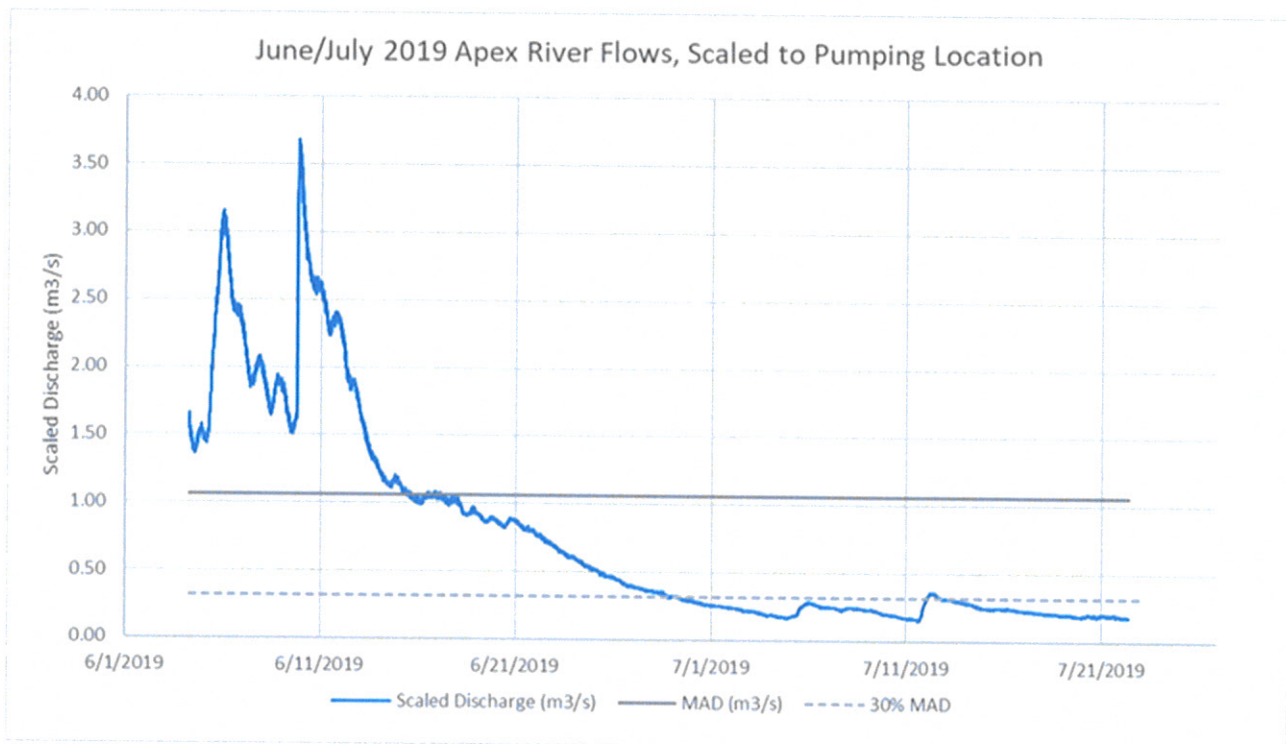


Figure 1: Apex River flows at proposed withdrawal location June 1 to July 22, 2019, compared against mean annual discharge (MAD) and 30% MAD at that location.

Due to low precipitation and meagre spring snowmelt, water levels in Lake Geraldine reservoir are also at the lowest level ever recorded on this date (Figure 2).

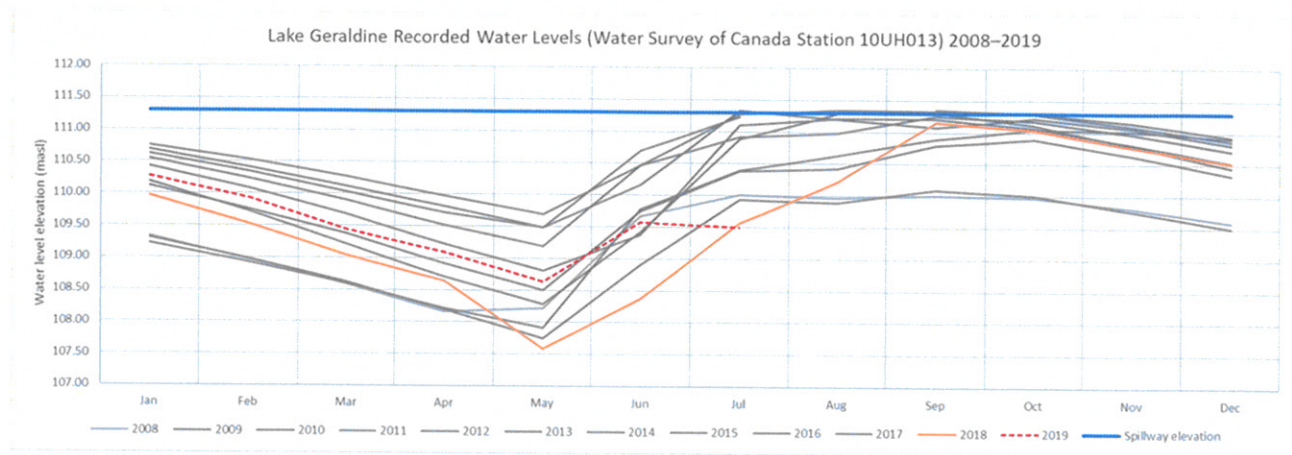


Figure 2: Historical water levels in Lake Geraldine reservoir 2008 to 2019. Supplementation from Apex River was conducted August – September 2018.

These compounding conditions of low flows and low reservoir levels raise the possibility that the reservoir will not be able to be filled prior to winter. **The City considers this a critical situation and will seek immediate approval to obtain water from another source in 2019 to avoid a public health emergency.**

Obtaining approval to withdraw from another source is not within the scope of the current application before the NWB, and will require a separate amendment application to be filed. Seeking approval requires a conformity review by the Nunavut Planning Commission (NPC), (up to 45 days), screening of the proposal by the Nunavut Impact Review Board (NIRB), (up to 45 days), Minister approval (30 days), followed by the NWB's public review process. Approval to supplement from a second water source would not be able to be obtained within the open water season in 2019 while following the normal approvals process.

In light of the historical low flow conditions, low water reservoir levels and the possibility that the Apex alone will not be able to provide sufficient water to supplement the reservoir in 2019, **the City is requesting that the Ministers to consider recognizing the situation as an emergency, so that the City's application to supplement from Unnamed Lake in 2019 can be processed under the emergency provisions of the NUPPAA and NSWRTA and a decision can be made as quickly as possible.**

Sections 152(1)(b) and 152(1)(c) of NUPPAA are relevant to this situation. If invoked, the assessment requirements of Part 3 of the Act (conformity review by the NPC and screening by the NIRB do not apply:

152 (1) This Part does not apply in respect of any project that is carried out in response to:

(a) an emergency if a federal or territorial minister who is authorized under any other Act of Parliament or any territorial law to declare a state of emergency, to take measures to prevent an emergency or to remedy or minimize its effects is of the opinion that an emergency exists; or

(b) an emergency if the federal Minister certifies that an emergency exists and that it is in the interest of ensuring the health or safety of an individual or the general public, or of protecting property or the environment that project be carried out without delay.

Section 52(2)(c) of the NSWRTA allows the NWB to proceed without holding a public hearing for the proposed amendment to the water licence:

(2) A public hearing need not be held :

(c) in the case of an application for the amendment of a licence where the Board, with the consent of the Minister, declares the amendment to be required on an emergency basis.

And Sections 55(4) and 55(5) shorten the decision time by the Minister:

(4) Where a public hearing is not held in relation to an application, the Board shall not act on the application until at least thirty days after notice of the application has been published under subsection (1) unless, in the opinion of the Board, there are urgent circumstances that justify the Board acting on that application in a shorter period, but that shorter period shall not be less than ten days.

(5) Subsections (1) and (4) do not apply in respect of an application for the amendment of a licence where the Board, with the consent of the Minister, declares the amendment to be required on an emergency basis.

THE UNNAMED LAKE AS A CONTINGENCY WATER SOURCE IN 2019

Unnamed Lake is a large lake (1.1 million square metres surface area) approximately 3 km north of the Apex River pumping location (Figure 3). There is not enough known about this lake to confirm its suitability as a long-term water supply for the City. It is currently being studied to determine if its water balance is sufficient for long-term supply, and these studies will be completed over the next several years. However, as a one-time source (2019), it can provide water necessary to fill the reservoir in addition to what will be supplied by the Apex River. Its depth is unknown, but a single measurement has been reported at in excess of 20 m at the centre of the lake. A more detailed bathymetric survey will be undertaken to confirm the lake morphometry. Water samples taken in early July 2019 demonstrate water at surface meets Health Canada's (June 2019) Guidelines for Canadian Drinking Water Quality for all parameters.

During engagement meetings with the Amaruq Hunters and Trappers Association, Indigenous land users encouraged the City to look at using this lake to obtain water, over the more easily accessed Sylvia Grinnell River, due to the cultural importance of that river.

Taking water from Unnamed Lake involves pumping water out of the lake to a point where it can be captured in the Apex River pumping system. This concept was approved by the NWB in the 2018 emergency situation. It is a challenging project to implement as a temporary solution due to the remote location. A location map showing the Unnamed Lake supplementation concept in relation to Apex River is shown in Figure 3.

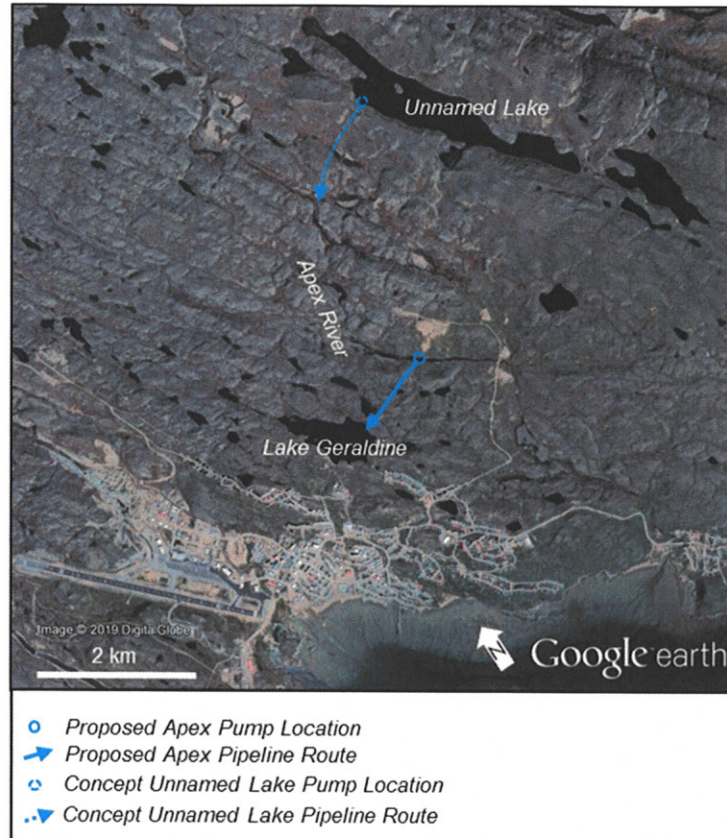


Figure 3: Proposed Apex River pumping arrangement and Unnamed Lake concept arrangement

CONCLUSION

The City is of the opinion that an emergency situation exists that, without remedy, may affect public health. The City will apply to the Nunavut Water Board to obtain immediate approval to withdraw water from the Unnamed Lake, in addition to the Apex River, to preclude a water shortage for the City of Iqaluit during the 2019-2020 winter season.