Fisheries and Oceans Canada | Pêches et Océans Canada

Suite 301, 5204 50th Avenue
Yellowknife, NT
X1A 1E2

August 1, 2017

Your files Votre référence
2BE-KUU

Our file Notre référence
17-HCAA-00556

Nunavut Water Board
**Attn: Licensing Department**
P.O Box 119
Gjoa Haven, NU
X0B 1J0

Dear Nunavut Water Board,

**Subject: 2BE-KUU – NxGold Ltd. Kuluu Project – Type B Water License**

The Fisheries Protection Program (the Program) of Fisheries and Oceans Canada would like to thank the Nunavut Water Board (NWB) for the opportunity to provide comments on NxGold Ltd.'s (the Proponent) Type B Water License Application for the Kuluu Project.

As outlined in your request dated July 7, 2017 reviewers are invited to submit comments and recommendations to the NWB by August 7, 2017.

The Program has reviewed the Proponent's proposal in regards to its mandate to maintain the sustainability and ongoing productivity of commercial, recreational and Aboriginal fisheries. The Program's comments are as follows:

For the construction of the winter spur road, the following guidance is available to help proponents avoid *serious harm* to fish and fish habitat: *DFO Protocol for Winter Water Withdrawal from Ice-covered Waterbodies in the Northwest Territories and Nunavut* (2010) and DFO's *Freshwater Intake End-of-Pipe Fish Screen Guideline* (1995). Additional mitigation measures can be found on DFO's Measures to Avoid Harm webpage: http://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures/measures-mesures-eng.html. Moreover, the Program supports the terms and conditions for the construction and operation of the winter spur road provided in the Nunavut Impact Review Board (NIRB) Screening Decision Report (dated June 15, 2017), specifically #39, #45, #47, and #50:

- The Proponent shall select a winter route that maximizes the use of frozen waterbodies.
- The Proponent shall ensure that winter lake/stream crossings are located to minimize approach grades and constructed entirely of ice and snow materials. Ice

or snow free of sediment should be the only materials used to construct temporary crossings over any ice-covered waterbodies.

- The Proponent shall ensure that stream crossings and/or temporary crossings constructed from ice and snow, which may cause jams, flooding or impede fish passage and or water flow, are removed or notched prior to spring break-up.
- The Proponent shall implement a clean-up and reclamation stabilization plan which should include, but is not limited to, re-vegetation and/or stabilization of exposed soil in road bed.

For the other works, undertakings, and activities associated with the Kuluu Project (e.g. drilling, work camps, site access and preparation, water withdrawal, etc), the Program reiterates comments submitted to the NIRB on May 16, 2017 (attached).

It remains the Proponent's responsibility to ensure it avoids causing *serious harm* to fish in compliance with the *Fisheries Act*, and that it meets the requirements under the *Species at Risk Act* as it may apply to their project. If the Proponent plans have changed or if the description of its proposal is incomplete, or changes in the future, the Proponent should consult our website (http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html) or consult with a qualified environmental consultant to determine if further review is required by the Program.

Please be advised that it is also the Proponent's *Duty to Notify* DFO if it has caused, or is about to cause, *serious harm* to fish that are part of or support a commercial, recreational or Aboriginal fishery. Such notifications should be directed to http://www.dfo-mpo.gc.ca/pnw-ppe/violation-infraction/index-eng.html.

If you or any other parties have any questions, please contact Jessica Taylor at 867-669-4927, or by email at Jessica.Taylor@dfo-mpo.gc.ca. Please refer to the file number referenced above when corresponding with the Program.

Yours sincerely,

Véronique D'Amours-Gauthier, DFO
Senior Fisheries Protection Biologist
Fisheries Protection Program

Copy: Jessica Taylor, DFO

ATTACHMENTS: 160517 NIRB NxGold Kuluu Project DFO Cvr Letter and Form.pdf

Fisheries and Oceans Canada | Pêches et Océans Canada

Suite 301, 5204 50th Avenue
Yellowknife, NT
X1A 1E2

May 16, 2017

Your files Votre référence
11EN016

Our file Notre référence
17-HCAA-00556

Nunavut Impact Review Board
**Attention: Jenny Klengenberg**
29 Mitik Street
P.O. Box 1360
Cambridge Bay, NU
X0B 0C0

Dear Jenny Klengenberg,

**Subject:** Notice of Screening and Comment Request for NxGold Ltd's "Kuulu Project" Proposal

The Fisheries Protection Program (the Program) of Fisheries and Oceans Canada would like to thank the Nunavut Impact Review Board (NIRB) for the opportunity to provide comments on NxGold Ltd.'s Kuluu (the Proponent) Project Proposal.

As outlined in your request dated April 25, 2017 reviewers are invited to submit comments and recommendations to the NIRB by May 16, 2017.

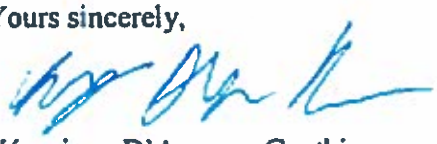
The Program has reviewed NxGold Ltd.'s Kuluu Project Proposal in regards to its mandate, i.e. to maintain the sustainability and ongoing productivity of commercial, recreational and Aboriginal fisheries. The program's comments are provided in the attached form provided by the NIRB.

It remains the Proponent's responsibility to ensure it avoids causing serious harm to fish in compliance with the *Fisheries Act*, and that it meets the requirements under the *Species at Risk Act* as it may apply to your project. If the Proponent plans have changed or if the description of its proposal is incomplete, or changes in the future, the Proponent should consult our website (http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html) or consult with a qualified environmental consultant to determine if further review is required by the Program.

Please be advised that it is also the Proponent's *Duty to Notify* DFO if it has caused, or is about to cause, serious harm to fish that are part of or support a commercial, recreational or Aboriginal fishery. Such notifications should be directed to http://www.dfo-mpo.gc.ca/pnw-ppe/violation-infraction/index-eng.html.

If you or any other parties have any questions, please contact Jessica Taylor at 867-669-4927, or by email at Jessica.Taylor@dfo-mpo.gc.ca. Please refer to the file number referenced above when corresponding with the Program.

Yours sincerely,



Véronique D'Amours-Gauthier
Senior Fisheries Protection Biologist
Fisheries Protection Program

Copy: Jessica Taylor, DFO

## COMMENT FORM FOR NIRB SCREENINGS

The Nunavut Impact Review Board (NIRB) has a mandate to protect the integrity of the ecosystem for the existing and future residents of Nunavut. To assess the environmental and socio-economic impacts of the project proposal, NIRB would like to hear your concerns, comments and suggestions about the following project proposal application:

**Project Proposal Title:** "Kuulu Project"
**Proponent:** NxGold Ltd.
**Location:** Kivalliq Region
**Comments Due By:** May 16, 2017 **NIRB #:** 11EN016

**Indicate your concerns about the project proposal below:**

| | |
|---|---|
| no concerns | traditional uses of land |
| water quality | Inuit harvesting activities |
| terrain | community involvement and consultation |
| air quality | local development in the area |
| wildlife and their habitat | tourism in the area |
| marine mammals and their habitat | human health issues |
| birds and their habitat | other: |
| X fish and their habitat | |
| heritage resources in area | |

**Please describe the concerns indicated above:**

- Drilling on ice during winter and spring; and
- Water withdrawal for ice pad construction, dust suppression, and domestic uses.

**Do you have any suggestions or recommendations for this application?**

**Site Access and Preparation, Work Camps, Drilling**

- Use existing trails, roads, or cut lines wherever possible to avoid disturbance to the riparian vegetation.
- Vegetation removal is to be minimal and when practicable, prune or top the vegetation instead of uprooting.
- Utilize previously cleared areas or natural openings for temporary work camps or otherwise limit the amount of vegetation that is disturbed.
- Locate work camps, including storage areas, fuel caches, and helicopter landing pads, on dry stable ground, above the High Water Mark (HWM), and employ measures to prevent the release of sediment or deleterious substances into any water body.
- Ensure that any temporary dock remains secure and in good repair, and is fully removed from below the HWM.
- Contain all drill cuttings, fluids or sludge in closed systems for reuse, off-site disposal, or otherwise contain and stabilize them to prevent their entry into any water body.
    - Where sumps are utilized they are located above the HWM of any water body and are able to contain all drilling waste.
- Use only non-toxic drilling additives and muds.
- Plug and permanently seal any artesian flow that is encountered and any holes drilled in wet areas (e.g., lake or wetland) upon completion of the project.
    - On-ice boreholes should be capped after drilling where feasible.
- Small diameter/low density on-ice drilling (i.e., less than 100mm with drill sites consisting of no more than three boreholes each, and drill sites spaced no closer than 15 metres apart) may be undertaken, except in known fish spawning habitat. Avoid drilling in gravel or rock rubble substrates in water depths less than four (4) metres within water bodies where fall-spawning fish species (e.g., lake trout, whitefish) are likely

to be present.
    - If the waterbody is not frozen to the bottom, fish deterrent techniques should be used to avoid impact to fish.
    - In waterbodies that freeze to the bottom, drilling should be limited or avoided in order to reduce impacts to fish as it could be used as overwintering habitat.
    - Remove all project materials from the ice prior to spring break-up.
- Undertake pitting, trenching and surface stripping in a manner that ensures sediment-laden run-off does not enter any water body by using appropriate set-backs from the HWM and other effective sediment and erosion control measures (e.g., direct run-off to vegetated areas away from a water body or to an appropriately located sump, and stabilize any stockpiled material to prevent sediment from entering any water body).

**Water Withdrawal**

- In order to avoid negative impacts to fish and fish habitat caused by flow alterations, reduction in water levels, or entrainment/impingement at water pump intakes, the following measures are to be incorporated for any water-taking activities:
    - Whenever feasible, withdraw water from non-fish bearing water bodies only.
    - If fish-bearing water bodies cannot be avoided, use only larger streams or lakes and avoid small water bodies.
    - Ensure water withdrawal volumes do not impact fish or fish habitat. Withdrawals from fish-bearing waters should not result in any noticeable change in water level or downstream flows, particularly during sensitive life stages (e.g., by dewatering spawning or egg incubation areas).
    - For any multiple or simultaneous water withdrawals, consider the cumulative impact of the total withdrawal volume on fish habitat by all water users.
    - Ensure water pump intakes are designed and operated in a manner that prevents streambed disturbance and fish mortality. Guidelines to determine the appropriate design for intake screens may be obtained from DFO (e.g. *Freshwater Intake End-of-Pipe Fish Screen Guideline,* 1995).

**General Measures**

- Maintain an undisturbed natural buffer zone between areas of on-land exploration (e.g., pitting, trenching, or surface stripping) and the HWM of any water body to assist in sediment and erosion control and retention of riparian vegetation.
- Time any in-water mineral exploration activities to prevent disruption to sensitive fish life stages by adhering to appropriate fisheries timing windows (see the *Nunavut In-Water Construction Timing Windows*), with the exception of on-ice drilling, or any water withdrawal activities.
- Operate machinery in a manner that minimizes disturbance to the water body bed and banks and prevents entry of deleterious substances into any water body.
    - Machinery is to arrive on site in a clean condition and is to be maintained free of fluid leaks.
    - Wash, refuel and service machinery and store fuel and other materials for the machinery away from the water, except for projects involving on-ice drilling where appropriate precautions are taken to prevent spills.
    - Keep an emergency spill kit on site in case of fluid leaks or spills from machinery.
- Apply appropriate measures, including an emergency contingency plan for inadvertent spills, to ensure that deleterious substances such as drill cuttings, acidic or metal leaching water, petroleum products, sediment, and debris do not enter any water body.
- Install effective sediment and erosion control measures, where appropriate, before starting work to prevent entry of sediment into any water body. Inspect them regularly during the course of the work and make all necessary repairs if any damage or malfunction occurs.
    - Ensure that the discharge of any water into or near a water body is done in a manner that prevents sedimentation or erosion (e.g., by stabilizing the discharge site).
- Stabilize and reclaim all disturbed areas upon completion of work. Immediately remove all debris or waste produced or associated with the work.
- Stabilize any waste materials removed from the work site to prevent them from entering any water body. This could include covering spoil piles with biodegradable mats or tarps or planting them with, preferably native, grass or shrubs.
- Vegetate any disturbed areas by planting and seeding preferably with native trees, shrubs or grasses and cover such areas with mulch to prevent erosion and to help seeds germinate. If there is insufficient time remaining in the growing season, the site should be stabilized (e.g., cover exposed areas with biodegradable

erosion control blankets to keep the soil in place and prevent erosion) until naturally re-vegetated the following spring. If re-vegetation is not possible due to climatic extremes and/or lack of appropriate seed or stock, the site should be stabilized using effective sediment and erosion control measures. In areas with permafrost, care should be exercised to ensure these measures do not cause thawing or frost heave.

- Maintain effective sediment and erosion control measures until re-vegetation of disturbed areas is achieved or until such areas have been permanently stabilized by other effective sediment and erosion control measures, in the event that re-vegetation is not possible.

**Do you support the project proposal? Yes X No ☐ Any additional comments?**

**Name of person commenting:** Jessica Taylor **of** Yellowknife, NT

**Position:** Fisheries Protection Biologist **Organization:** Fisheries and Oceans Canada

**Signature:** J Taylor via E **Date:** May 16, 2017