

Environmental Protection Operations Directorate
Prairie & Northern Region
5019 52nd Street, 4th Floor
P.O. Box 2310
Yellowknife, NT X1A 2P7

ECCC File: 6100 000 115/002
NWB File: 2AM-BRP1831



October 13, 2020

via email at: licensing@nwb-oen.ca

Stephanie Autut
Executive Director
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0

Dear Stephanie Autut:

RE: Licence #2AM-BRP1831 – Sabina Gold & Silver Corp. – Back River Project – Aquatic Baseline Synthesis Report

Environment and Climate Change Canada (ECCC) has reviewed the information submitted to the Nunavut Water Board (NWB) regarding the above-mentioned detailed report.

ECCC's specialist advice is based on our mandate pursuant to the *Canadian Environmental Protection Act* and the pollution prevention provisions of the *Fisheries Act*.

The following comments are provided:

1. Baseline data set

Reference(s)

- Sabina Gold & Silver Corp. Back River Project - Aquatic Baseline Synthesis Report, Sections 1.3.3 AEMP Sampling Stations and 7.2 Conclusions

Comment

The baseline dataset for Propeller Lake is not sufficient to support normal range calculations to assess potential effects in Propeller Lake.

The report identifies that current water quality predictions suggest that a mine-related influence on Propeller Lake water quality is not expected until close to the end of operations/closure, and that additional baseline data would be collected prior to mine closure to supplement the existing dataset and support future baseline comparisons.



ECCC Recommendation(s)

ECCC recommends that the Proponent identify water quality parameter thresholds for Goose Lake (near-field exposure) that would trigger additional baseline sampling in Propeller Lake (far-field exposure) prior the end of operations/closure to capture baseline data for Propeller Lake before it is affected by mine-related effluent in support of the BACI study design.

2. Paired data

Reference(s)

- Sabina Gold & Silver Corp. Back River Project - Aquatic Baseline Synthesis Report, Section 7.2 Conclusions

Comment

Only one year of paired data are available for under-ice (April) water quality for Goose Lake and Reference B Lake.

Paired data is available for open-water water quality for Goose Lake and Reference B Lake. The BACI study design would be stronger with more than one year of paired data for under-ice baseline water quality.

ECCC Recommendation(s)

ECCC recommends that additional under-ice data be collected prior to construction of the project following the same methods and procedures used in the 2018 sampling program.

3. Lake Trout data sample sizes

Reference(s)

- Sabina Gold & Silver Corp. Back River Project - Aquatic Baseline Synthesis Report, Sections 5.4.4.2 Size and 5.4.4.3 Condition

Comment

Lake Trout data sample sizes are limited in supporting the calculation of a normal range for Lake Trout size and condition.

During the 2018 baseline fish health program, 11 Lake Trout were captured as bycatch and the sampling effort was biased towards the capture of small young-of-year (YOY) Lake Trout. Due to concerns about the long-term impacts of lethal sampling on large-bodied fish populations, lethal sampling of Lake Trout was not conducted in 2013 or 2018.

ECCC Recommendation(s)

ECCC recommends that the Proponent identify how a more robust dataset to characterize baseline Lake Trout size and condition can be developed to support the BACI study design and the aquatic effects monitoring program design update.

If you need more information, please contact Orlagh O'Sullivan at (431) 276-4506 or Orlagh.OSullivan@Canada.ca.

Sincerely,

[original signed by]

Orlagh O'Sullivan
Environmental Assessment Officer

cc: Brian Asher, Acting Head, Environmental Assessment North (NT and NU)