

By Email: Michel.Vitou@ceaa-acee.gc.ca

30 June 2017

Michel K. Vitou
Chief of Compliance and Enforcement
Canadian Environmental Assessment Agency
160 Elgin Street, 22nd Floor
Ottawa, ON
K1A 0H3

Dear Mr. Vitou,

Re: Your File #: CEAA Registry - 80034
Brucejack Order 20 June 2017

This letter is in response to the Order issued pursuant to section 94 of the Canadian Environmental Assessment Act, 2012 on 20 June 2017 in regards to the Brucejack Gold Mine. Specifically, that allegedly Condition 8.4 of the federal decision statement under section 54 of CEAA 2012 for the Brucejack Gold Mine Project has not been complied with. And that as a result of that alleged lack of compliance an Order has been issued to install fencing at a wildlife tunnel installed at Site #6B; install three additional wildlife tunnels with fencing at Site #3; install one tunnel with fencing at Site #1; install fencing and one tunnel or modify an existing bridge at Site #2; all prior to August 1, 2017; monitor and record the presence and movement of Western Toad through August 2017; and report information found during the monitoring no later than September 10, 2017.

Condition 8.4 of the decision statement for the Brucejack Gold Mine Project does not have an associated time of completion for construction of the wildlife (Toad) tunnels and we are actively in the process of installing the tunnels so there could not be a lack of compliance with Condition 8.4.

The senior enforcement officer who inspected the site in November 2016 and then in May 2017 reported that the fencing associated with the tunnel at Site #6B had not been installed at the time of either inspection. At the time of the November 2016 inspection the tunnel at Site #6B had just been installed; in fact construction equipment was still parked along the access road near the tunnel site at the time of the inspection. The November 2016 inspection took place immediately before winter snowfalls began and the May 2017 inspection took place immediately after snow melted.

The Project location in the mountainous terrain of northwest British Columbia is subject to considerable snowfall from October to May. Scott Pass meteorological monitoring station, the closest station and in the general vicinity to Site #6B, has recorded snow depths of 150 to 170 cm over the 2014 - 2015 and 2015 - 2016 winter seasons (2017 yearly record is not available to date) with snow depths of 13 to 58 cm remaining in mid-May. Winter conditions

with frozen ground and snow accumulations of the magnitude experienced at the Site #6B are not conducive to installation of the fencing associated with a toad tunnel.

During the November 2016 inspection the enforcement officer commented on the apparent steepness of the rocky hillside uphill of the toad tunnel. The road engineer who oversaw the construction of the tunnel at Site #6B had also expressed concern over the difficulty of building a suitable tunnel in such steep topography. Given the concern expressed by the road engineer and the fact that we do not wish to build tunnels in locations not suitable for toad movement, the site examination by an ERM biologist to review the sites recommended in the ERM 23 October 2014 Memorandum, *Selection of Western Toad Mitigation Sites along Brucejack Access Road* was scheduled for June this year. That field final siting of tunnel locations was undertaken on June 25th to 26th. The report of that field final siting of tunnel locations is anticipated by mid-August 2017.

Preliminary observations by the ERM biologist and road engineer indicate that construction of tunnels at three locations along Site #3 are feasible. Site #2 is more suited to a modified bridge crossing, however, the road engineer does not consider the current bridge suitable for addition of a natural substrate without impinging on the wetted area of the stream. That bridge is scheduled for replacement at some point over the next two winters. Site #1 may not be as biologically suitable as previously considered and the ERM biologist has suggested an alternative at another higher priority location along Site #6.

ERM has reviewed the Order and has provided information and recommendations in the attached memorandum, dated 30 June 2017, *CEAA Order – Registry 80034 regarding Toad Tunnel Installation*. The ERM biologist recommends that the toad tunnels not be installed until the spring or fall in alignment with *Guidelines for Amphibian and Reptile Conservation during Urban and Rural Land Development in British Columbia (BC MOE 2014)*. However, with snow persisting into May only the fall season is suitable from an engineering standpoint. ERM has suggested an alternate reporting date of 30 September 2017 for monitoring data as it will take a greater time than the time stipulated in the Order to complete the task of data retrieval, review and reporting.

We request a Review of the Order. In light of the suggested construction timeframe outlined in the *Guidelines for Amphibian and Reptile Conservation during Urban and Rural Land Development in British Columbia (BC MOE 2014)* we request that the Order be amended to (1) delay construction of the three toad tunnels along Site #3 until the fall of 2017; (2) that the ERM biologist recommendation to build an additional tunnel at Site #6 rather than Site #1 be agreed upon and that tunnel be installed in the fall of 2017; (3) given that further engineering is required to determine the best avenue to install a toad tunnel or modified bridge at Site #2, that further installations of wildlife access under the road at Site #2 be delayed until an appropriate time in 2018; and (4) that for any monitoring undertaken in 2017 a report be made available to CEAA by 30 September 2017.

At this time installation of the toad tunnels outlined in the Order are scheduled to begin July 7th with completion expected by August 1st. Suitable materials have been purchased and we are prepared to install tunnels with fencing by August 1st but would prefer to follow the BC Ministry of Environment guidance for timing of construction. Fencing installation and monitoring will be undertaken at the tunnel already installed with a report to follow. An

additional consideration is that some sites may require tree and brush removal. July is a time of migratory bird nesting in this region of British Columbia. It may not be possible to complete construction of the tunnels within the time frame in the Order and remain in conformity with Condition 4.1 of the Decision Statement.

We look forward to hearing from you and are available to provide any additional information that may be required.

Regards

<Original signed by>

Max Holtby 
Director Permitting

Attachments:

Memorandum by ERM, dated 30 June 2017, *CEAA Order – Registry 80034 regarding Toad Tunnel Installation*

Cc: N. Courville, Senior Enforcement Officer, CEAA
S. Van Zalingen, Environmental Manager, Pretium
J. J. Ovsenek, President, Pretium

Memorandum

Date: June 30, 2017
To: Max Holtby (Pretium)
From: Leslie Bol, Katie Kuker
Cc: Greg Norton
Subject: CEAA Order - Registry 80034 regarding Toad Tunnel Installation

1. INTRODUCTION

Wildlife biologists at ERM have reviewed the Order from CEAA dated June 20, 2017 related to Condition 8.4 of the federal decision statement regarding wildlife tunnels for western toads (*Anaxyrus boreas*) and provide the following information and recommendations related to the Order.

2. TECHNICAL COMMENTS ON ORDER

Specific comments ERM would like to raise in regards to the technical content of the memo include:

- Condition 8.4 of the federal decision statement does not include any specification of timing in regard to wildlife tunnel installation. ERM has been working closely with both Pretium and AllNorth since October 2014 to make progress towards meeting this condition;
- Condition 8.4 of the federal decision statement does not provide recommendations for a specific number of tunnels for installation; the intent of the ERM (2014) Memorandum was to provide a suite of potential sites where installation would be beneficial and Pretium has installed one;
- ERM is concerned with the suggested timing of the installation of additional wildlife tunnels which is during the sensitive timing window period of May to October; and
- the ERM (2014) Memorandum provided an example of an appropriate tunnel size but it was not meant as a minimum size requirement.

Recommendations related to these comments are provided below.

3. MEASURES TO BE TAKEN

As previously planned, ERM will support Pretium to construct and install fencing prior to August 1, 2017 at the current toad tunnel that was installed in October 2016 at Priority Site #6B. Pretium will also follow ERM guidance to ensure that fencing at this and future sites will be installed on a site specific basis to be the most beneficial for leading toads to the tunnel based on the surrounding topography and local site conditions and will adhere to specifications in *Wildlife Crossing Structure Handbook* (US Department of Transportation 2011). This will comply with Measure 1 of the Order.

ERM advises that Measures 2, 3 and 4 should not occur within the CEAA time period of prior to August 1, 2017 as undue mortality may occur due to heavy equipment being used for the installation of tunnels. Delaying construction activities related to tunnel installation until the fall or early spring is advised and conforms to guidance provided in *Guidelines for Amphibian and Reptile Conservation during Urban and Rural Land Development in British Columbia* (BC MOE 2014) i.e. “if amphibians and reptiles are present, try to avoid construction during periods when they are congregated for breeding, nesting or seasonal migrations.” As quoted from the Brucejack Gold Mine Project Environmental Assessment Report in the CEAA letter, the emergence and migration period of recently metamorphosed juvenile toads occurs in July and August and is considered a high-risk period. Metamorphosis is usually complete by August but can be delayed in colder areas at higher elevations (COSEWIC 2012). As such, the installation of additional toad tunnels should be delayed until the fall or early spring when fewer individuals, if present, will be migrating. The sensitive period for western toads is May to October. Pretivm’s *Environmental Sensitivities and Standard Operating Procedures for Clearing and Construction Activities* (ERM 2015) states that construction activities will be avoided in areas adjacent to potentially high-quality western toad breeding habitat from May through October (ERM 2015).

As indicated in the original memo to Pretium dated October 23, 2014, *Selection of Western Toad Mitigation Sites along Brucejack Access Road* (the Memorandum), discussions with road engineers were required to determine the final siting of tunnel locations. Similarly, the suggested size of 1.8 X 0.8 m was intended as an example of suitable sizing but not a strict constraint on size. The provincial *Guidelines for Amphibian and Reptile Conservation during Urban and Rural Land Development in British Columbia* (BC MOE 2014), cite “tunnels of large diameter (approximately 1 m) are more effective”. As such the minimum diameter that is appropriate is 1 m. This is also supported by recommendations included in the *Wildlife Crossing Structure Handbook* (US Department of Transportation 2011) for roads less than 19 m in width.

A site visit was completed June 25-26, 2017 by Shaun Freeman (RPBio) with road engineers from AllNorth and Pretivm Environmental staff. Based on both biological and engineering constraints, three additional highest priority sites, one high priority site, and an upgrade to an existing bridge that is a medium priority site were identified as feasible for tunnel installations.

These sites have been verified in the field with both biologists and engineers; however, these sites could be modified slightly if unforeseen engineering complications are encountered. Should this occur, the biologists will be consulted.

4. MONITORING AND REPORTING

To comply with Measure 5, ERM recommends installation of a remote camera in July 2017, at the existing tunnel located at High Priority Site #6B. The use of remote cameras for western toad monitoring is a methodology suggested by Environment and Climate Change Canada (ECCC 2016).

For other locations along the road where high concentrations of toads may be crossing and tunnels are not yet installed, the following steps from *Best Management Practices for Amphibian and Reptile Salvages in British Columbia* (MFLNRO 2016) are recommended:

1. Monitor the road every three days effective July 5 and continuing until August 31, 2017;

- 1.1. If high concentrations of juvenile toads are observed along the road, conduct a “capture and relocation within project area” program by moving the toads to the opposite side of the road (BC MOE 2014); and
- 1.2. Follow provincially available standard operating procedures for reducing disease transmission (BC Ministry of Environment 2008).

In regard to compliance with measure 7 for reporting on monitoring, greater than six business days will be needed to retrieve, review and report on remote camera images collected until August 31, 2017. An alternative monitoring report date of at a minimum September 30, 2017 is requested.

5. CONCLUSIONS

A site visit was completed June 25-26, 2017 by Shaun Freeman (RPBio) with road engineers from AllNorth and Pretium Environmental staff to finalize the location of the remaining toad tunnels. These sites were identified and confirmed to meet both biological and engineering requirements. ERM advises that the timing of additional toad tunnel installations should be delayed until the fall or early spring as July and August are a period when seasonal migration of recently metamorphosed western toad juveniles occurs. As an alternative to installing more toad tunnels prior to August 1, 2017, a road monitoring and localized salvage program, if required, can be implemented to be in compliance with the CEAA measures. The Memorandum from ERM to Pretium in October 2014 included a tunnel size recommendation that was specific to a box culvert option but was not meant as a minimum size requirement. Provincial guidelines indicate that a 1 m diameter tunnel is sufficient (BC MOE 2014).

Prepared by:
<Original signed by>

Leslie Bol, MSc, RPBio/Senior Consultant

ERM

REFERENCES

- BC Ministry of Environment. 2008. Interim hygiene protocols for amphibian field staff and researchers. http://www.env.gov.bc.ca/wld/frogwatch/amphibian_disease.htm (accessed March, 2009).
- BC MOE. 2014. Guidelines for Amphibian and Reptile Conservation during Urban and Rural Land Development in British Columbia (2014). British Columbia Ministry of Environment: Victoria, BC.
- COSEWIC. 2012. COSEWIC assessment and status report on the Western Toad *Anaxyrus boreas* in Canada. Ottawa.
- ECCC. 2016. Environment and Climate Change Canada Standard Guidance for Environmental Assessments: Western Toad (*Anaxyrus boreas*). Environment and Climate Change Canada and Canadian Wildlife Service: Ottawa, ON.
- ERM, 2014. Selection of Western Toad Mitigation Sites along Brucejack Access Road. Memorandum prepared by ERM for Pretivm. Vancouver, BC.
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- MFLNRO. 2016. Best Management Practices for Amphibian and Reptile Salvages in British Columbia. Ministry of Forests, Lands, and Natural Resource Operations:
- US Department of Transportation. 2011. Wildlife Crossing Structure Handbook: Design and Evaluation in North America. Lakewood, CO, USA.