

Appendix 48

Whale Tail 16HCAA00370 Whale Tail Project Offsets - Construction Timing Condition 5.1.1.3

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Re: Schedule for the Implementation of Offsetting Measures – Whale Tail Pit Project

1.1 BACKGROUND

In July, 2018, Agnico Eagle Mines Ltd. (Agnico) was issued *Fisheries Act* Authorization (FAA) 16-HCAA-00370 for the Whale Tail Pit Project. Approved fish habitat offsetting related to this Authorization is described in the Fish Habitat Offsetting Plan for Whale Tail Pit (March, 2018).

This Technical Memorandum was developed in response to Condition 5.1.1.3 of the FAA, which indicates:

“The Proponent shall develop a schedule for the implementation of the offsetting measures, and shall provide this schedule to DFO no later than December 31, 2019.”

1.2 SCHEDULE FOR IMPLEMENTATION

1.2.1 Constructed Offsets

As described in the Fish Habitat Offsetting Plan for Whale Tail Pit (March, 2018), constructed offsetting measures for this project consist of:

- Flooding of Whale Tail Lake to a water level that is 1 m above baseline, through construction of the Mammoth Sill.
- Creation of coarse-substrate shoals through scarification of roads and additional placement of rock material within the de-watered area of Whale Tail Lake – North Basin.

Construction of these offsets is planned to occur according to the timeline in Table 1 below, based on water management and closure activities described in the Whale Tail Pit - Water Management Plan Addendum and Interim Whale Tail Closure and Reclamation Plan (Whale Tail Pit and Haul Road FEIS, June, 2016). This expected timeline is based on the current permitted mine plan, and does not make consideration for expansion possibilities that are under regulatory review at this time (i.e. Whale Tail Pit – Expansion Project), or that may arise in the future.

Table 1. Estimated timing of construction for fish habitat offsetting features (habitat enhancements and creation) under currently permitted mine plans. *an interim increase in water levels of approx. 3 m during operations was identified in the FEIS.

Area	Feature	Construction Complete
Whale Tail Lake – North Basin	Scarification of roads	2026
	Construction of new shoals	2026
	Increase in water level	2029
Connecting channel between Mammoth Lake and Whale Tail Lake (North Basin)	Mammoth Sill	2026
Whale Tail Lake – South Basin	Increase in water level	Interim (+ est. 3 m) – 2019* Final (+ 1 m) - 2025

Provided that water quality monitoring results meet discharge criteria, the Whale Tail and Mammoth Dikes are planned to be breached by the end of the closure period (est. 2029). Breaching of the dikes will allow fish access to the previously de-watered Whale Tail Lake – North Basin, and realize the offsets in that area.

Offsets provided by the increased water level south of Whale Tail Dike will be realized in the nearer term. Flooding infrastructure for operational purposes was complete in 2019, and the flooded area is accessible to fish. Current water levels are 2.64 m above baseline (December, 2019), with seasonal variation expected. The final water level used for offsetting calculations (1 m above baseline) will be achieved once water levels are drawn down during the closure period (est. 2025).

1.2.2 Complementary Measures

In addition to these constructed features, a suite of complementary measures (research projects) form part of the offsetting for the Whale Tail Pit project. A schedule for initiation and completion of these research projects is provided in Table 2. For Projects 1, 2, 3, 4, and 6, these schedules are according to research agreements in place between Agnico Eagle and the identified research partners. For Project 5 (End Pit Lake Habitat Assessment), the timeline is based on current estimates for re-flooding of the Vault and Phaser Pits where this research study is planned to occur. This timeline may change if a partner site is identified and the study can be completed in the nearer term. Any collaboration to that end will be developed in consultation with DFO.

Table 2. Timeline of completion for complementary measures (research projects).

Project		Lead Researcher	Study Initiation	Study Completion
1	Changes in Aquatic Productivity	H. Swanson	2018	2022
2	Baker Lake Wastewater Assessment	H. Swanson	2019	2024
3	Lake Fish Habitat Preferences	S. Doka	2018	2020
4	Arctic Grayling Occupancy Modelling	H. Swanson	2018	2021
5	End Pit Lake Habitat Assessment	TBD	2027 (est.)	2034 (est.)
6	eDNA Methods Development	J. Stetefeld	2018	2023