



Sunshine Coast
Conservation
Association

PO Box 1969 Sechelt, British Columbia V0N 3A0
www.thescca.ca

January 24, 2018

Canadian Environmental Assessment Agency
410-701 West Georgia Street
Vancouver, BC
V7Y 1C6

Regarding: Comprehensive Study Report on the BURSCO Aggregate Mine Project

The Sunshine Coast Conservation Association is responding to the invitation by the Canadian Environmental Assessment Agency (Agency) to comment on the Comprehensive Study Report on the BURSCO Aggregate Mine Project. The Sunshine Coast Conservation Association (SCCA) was awarded monies from the Agency's Participatory Funding Program in 2012 to provide comment on all three public opportunities. The SCCA has represented environmental groups and individuals for the past 20 years; the mandate is to preserve the natural biodiversity of the Sunshine Coast region for the present and future benefit. The comments on the effects of the proposed Project are therefore limited to biodiversity concerns. The absence of comments with regards to the socio-economic impact on the neighbouring community for example, does not constitute approval of that section of the Comprehensive Study Report.

The SCCA is disappointed that the Comprehensive Study Report (CSR) will have already been sent to the Minister and that these comments from the public and ourselves will only be summarized and forwarded to the Minister for her consideration in her decision to grant an Environmental Certificate. Based on our experience of which previous comments were incorporated in the Assessment or even identified in the *Views Expressed* sections of this Report¹ the SCCA is dubious that the public's concerns will be thoroughly summarized and given due consideration. Thus the Assessment displays a distinct bias towards development and against the natural assets in care of the Crown and the citizens that live in the environs.

The SCCA does not support the Agency's conclusion "...that (overall) the BURSCO Aggregate Mine Project is not likely to cause significant adverse environmental effects" (p. iv). Although the CSR does state that one of the key adverse effects considered during the environmental

¹ Our previous comments identified that Chinook and Steelhead should be specifically identified as species utilizing McNab Creek. In addition we asked that beach spawning forage fish, critical prey for Chinook and Coho, such as Pacific Sand Lance and Surf Smelt be sampled according to provincially recognized protocols. Neither show to be incorporated in the CSR.

assessments is “*Loss of fish habitat in McNab Creek and water courses downstream of the lake pit* (p. iv); and further, that a key mitigation measure includes “*Implementation of the Fish Habitat Offsetting plan to compensate for the loss of fish habitat*” (p. iv) there is no consideration of a compensation plan for the loss of fish habitat for McNab Creek itself.

This is a significant flaw in the Comprehensive Study Report.

McNab Creek should be the most Valued Environmental Component in this Environmental Assessment. It currently supports at least 4 species of salmon (Coho, Pink, Chum and Chinook), in addition to supporting both Steelhead and Cutthroat trout. It is recognized, because of its geomorphology and relative lack of human disturbance of the alluvial fan, as second only to the Squamish River in its importance as fish habitat in the entire Howe Sound. Although current data may indicate low numbers, historical evidence that McNab Creek was once teeming with salmon is evidenced with the Squamish Nations name of Kw’ech’ténm, translated as “cutting fish place”.

We would like to remind the Agency that *Canada’s Policy for Conservation of Wild Pacific Salmon (2005)*, more commonly known as the *Wild Salmon Policy (WSP)*, which is still in effect and soon-to-be implemented (*DRAFT 2018-2022 Wild Salmon Policy Implementation Plan – For Consultations, Fall 2017, Fisheries & Oceans Canada*) places conservation of all Pacific salmon species as the first priority for this resource. Specifically, it represents the federal government’s commitment to maintaining/rebuilding healthy and diverse populations of salmonids and their habitats. Geographically and genetically linked populations are known as Conservation Units (CU). Further the WSP incorporates the Precautionary Approach (as defined in “*A Framework for the Application of Precaution in Science-based Decision Making about Risk*”, Canada, Privy Council Office 2003). It is possible that the species utilizing McNab Creek form part of the Howe Sound CU, the McNab Creek watershed, because of its geomorphology, including the estuary, will play an important role in rebuilding the stocks in our community with the attendant benefits to the commons.

The current Environmental Assessment must utilize the Precautionary Approach because the proposed Project has the potential to irreversibly damage wild salmon and their habitat in McNab Creek and water courses downstream not only during the operations and closure phases but permanently for centuries after the 28 ha, 35m deep wetted mine pit has been excavated.

The reliance on this unproven model is so overwhelming that the CSR has analysed very little baseline information with respect to McNab Creek itself and its interaction with the wetted pit. Specifically, the following are lacking:

1. The salmonid species utilizing McNab Creek have not been comprehensively identified nor evaluated. Steelhead trout (*Oncorhynchus mykiss*) are not even mentioned in this

Report and Chinook (*O. tshawytscha*) have only been identified as being observed in the marine foreshore. Yet the nearby Box Canyon Hydroelectric Project located on an upstream tributary of McNab Creek has created compensation channels specifically for Steelhead. Dr. David Bates, who is very well respected and has many years of experience in the McNab watershed, has stated “*McNab Creek has been and still is a Steelhead Creek.*” (email, Nov. 13/2017, Sr Biologist, FSCI Biological Consulting)

DFO Escapement Records dating back to 1950 and recognized as not being complete show the presence of Chinook. More recently a citizen scientist has notes and video footage documenting that Chinook have spawned there at least 3 of the last 4 years². If species are not identified, their life cycle usage, and the variability in their yearly runs prior to construction not evaluated, then it will be extremely unlikely that detrimental impacts will be noticed and compensation then becomes unenforceable.

2. The limited temporal studies of only a few samples over a few years on the “natural” variability of the creek are scientifically inadequate to determine flow and quality and the impact on all salmonid species both in McNab Creek and the foreshore watercourses.
3. Although the Agency did examine effects of accidents and malfunctions on the Project it did so only with respect to the construction and operations phase of the Project.³ The resulting wetted pit is a permanent residual effect and therefore the maintenance of the weir and the valve on the containment berm must also endure forever. The possibility of accidents and malfunctions during Closure and Post-Closure phases and the effects on resulting salmonid values on McNab Creek should have been examined and planned for.
4. The proponent has identified climate changes that the south coast of British Columbia may experience over the next 30 years⁴ and makes the case that the Project design considers these climate factors. For example, the proponent has stated that, while operating, the shape of the excavation and excavation rate will be changed should water quality and quantity monitoring in periods of drought indicate this to be necessary. The Agency should have, at the very least, insisted that the BC Environmental Assessment Office mandate a legally binding condition that mining would not just be reduced but halted until such time that water conditions revert to biologically acceptable levels.

² See John Buchanan, Squamish Streamkeeper; https://www.youtube.com/watch?v=UIY_PdNB0LU&t=16s, <https://www.youtube.com/watch?v=A7lwWQi8NmA>, <https://www.youtube.com/watch?v=8aQyH2zjqfY>

³ Comprehensive Study Report – BURSCO Aggregate Mine Project, 5.5.1 Effects of Accidents and Malfunctions, page 70.

⁴ Ibid, page 79.

Further it is stated that with respect to climate change: *“The degree of change within the life of the Project is within the Project’s design specifications and all marine and land based infrastructure would be removed upon closure, predicted to begin in 2035. Therefore, considerable climate-infrastructure effects are not predicted to occur”*.⁵ The large permanent wet pit, containment berm, weir and controlling valve will not be removed upon closure, and therefore will in the not too distant future become vulnerable to considerable deleterious “climate-infrastructure” effects.

The SCCA disagrees with the assumption that climate change is this readily predictable. It is extremely likely that the effects of climate change will be dynamic, unforeseen and quite probably worse in effect.

The Agency must consider how the values to Canada of the salmonids and salmonid habitat in the McNab Creek watershed, including the estuary are best protected from the uncertain impacts of climate change. Only then can the impacts of the proposed Project, compounded with its own climate change impacts, on this ecosystem be evaluated; the strategy of avoidance may be the cheapest, most resilient course.

It is understood that this Comprehensive Study Report was prepared under the previous Canadian Environmental Assessment Act. What is not clearly stated is whether the previous Fisheries Act is being applied to this EA. The previous Fisheries Act (FA) included the prohibition of harmful alteration or disruption, or destruction of fish habitat (Section 35) and was guided by the No Net Loss Policy. If McNab Creek watershed was left alone to recover from decades of logging it is expected that salmon numbers would rise. Given that British Columbia’s iconic salmon species (including Steelhead) are facing unprecedented population declines due to a number of factors including climate change and marine survival, it is imperative that their freshwater habitats are protected from further damage.

In recognizing that the Project will have the ability to (unexpectedly) permanently alter the fish habitat, the Agency should have required the Proponent to prepare a Fish Habitat Offsetting plan to compensate for the loss of fish habitat in McNab specifically. This may not be feasible as recognized by DFO in 2011: *“...options for adequate fish habitat compensation within McNab Creek or even the greater Howe Sound area are severely limited and may not allow the proposed development to meet DFO’s fish habitat policies including the No Net Loss guiding principle.”*⁶

⁵ Ibid

⁶ BURNCO’S McNab Creek Aggregate Mine Development Proposal, Review of DFO File on Behalf of RDG Pacific, Review Team, Final Report, March 6, 2011, MECTS 2011-505-0018; page 3

Protecting and rebuilding the salmon stocks in McNab Creek and the foreshore waters is not only important for the species themselves but will also be substantive prey in the provincially protected Grizzly Bear Squamish-Lillooet population unit and the federally protected Southern Resident Orca population. The recent Chinook salmon spawning data is especially heartening as they are the preferred food for the endangered Orcas. Chum salmon which spawn in greater abundance in McNab Creek are a distant second preference. The Species-at-Risk Act Registry identifies that reduced prey availability is the second greatest current threat (after environmental contaminants) facing these marine mammals⁷. In examining changes in salmon abundance and availability within the southern residents' habitat it was noted that Chinook are the least abundant of the salmon, but because they live longer they have the ability to spawn at different ages and, during their ocean life stage, they are year-round in the nearshore waters making them more readily available as food. The Orcas are known to concentrate at the mouths of rivers when the Chinook return to spawn. The Registry notes that it is important to *"...consider the timing of the spawning period of each salmon stock when assessing the availability of salmon for killer whales, in order to ensure an adequate year-round food supply."*⁸ Further studies should be conducted to determine the timing of the Chinook (and Chum) spawning on McNab Creek and how this nearby food source might fit in with the Orcas' annual food supply schedule.

Chinook themselves feed heavily upon forage fish; these fish are a cornerstone of the marine food web. When Chinook smolts emerge from their natal rivers to acclimate to the marine waters in the estuaries, the larval and juvenile stages of the Pacific Sand Lance constitute the majority of their diet. As adults, together with Herring, Pacific Sand Lance comprises 72% of an adult Chinook salmon's diet. Pacific Sand Lance and Surf Smelt are intertidal beach spawning forage fish. However, the Proponent did not conduct an intertidal forage fish spawn survey in accordance with standard forage fish egg sampling procedures (Moulton and Penttila, 2001) nor were their limited beach seine surveys conducted during the winter spawning window.

The SCCA is dismayed that neither the Agency nor the BC Environmental Office has required the proponent to properly sample for the Chinook and Coho prey as per the Proponent's response to the SCCA comments identified as Issues 1634 & 1636 in the Environmental Issues Statement, Public Issues Tracking Response, 2016.⁹ In order to comply with Sec 38(4) of the Fisheries Act R.S.C 1985, a survey specific to intertidal spawning forage fish (winter and summer Surf Smelt and Pacific Sand Lance) needs to be conducted across the entire intertidal area.

Given the significant, permanent and non-renewable effect of the mine (i.e. wetted pit) on McNab Creek and downslope watercourses, the ever present local seismic activity, and the strengthening and increasingly erratic effects of climate change there is a strong likelihood that

⁷ http://www.sararegistry.gc.ca/document/doc1341a/p2_e.cfm#s2_2_2; retrieved 23/01/2018

⁸ Ibid.

⁹ <https://projects.eao.gov.bc.ca/api/document/594afac43de5f3001a5f8a8f/fetch>, Proponent Response

the Project at some point in time could cause harmful alteration or disruption, or destruction of fish habitat on the 2nd most important river in the entire Howe Sound. With few options for compensation as stated above, the financial and environmental costs for remediation would be enormous to both levels of senior government and frankly could be far greater than the tax dollars collected if the Project were approved.

There are additional concerns with the CSR with respect to the inadequate study of Cutthroat trout, the question of how the wetted pit which will be barren of fish upon closure will be useful to the Grizzly Bear population; and with the incremental loss of aggregate during 16 years of barging upon the federally recognized Glass Sponge Reefs.¹⁰

Nonetheless the gravest issue is that the Agency has not recognized, in the Comprehensive Study Report, the significance of the resulting wetted 28ha, 35m deep pit and the permanent, non-renewable impact that it will have on McNab Creek, the downslope water courses and the estuary.

It is understood that the provincial Ministry of Forests, Lands and Natural Resource Operations is conducting a Cumulative Effects Framework for Howe Sound and that a draft will be ready April and that it will be presented to the Howe Sound Community Forum in May, 2018¹¹. Further, if this Project is being assessed under the previous Canadian Environmental Assessment Act, there is no mandated deadline for the Minister to make her decision, nor for the province too either. It would not only be appropriate, but also tax wise to wait to make a decision until at least the provincial Framework can be incorporated into this Canadian Environmental Assessment. The Sunshine Coast Conservation Association respectfully asks that the Minister extend the Public Comment Period on the BURNCO Aggregate Mine Project until such time that the Cumulative Effects Framework for Howe Sound is incorporated in the CEA.

Conclusion

The SCCA remains unconvinced that the proposed aggregate mine, especially with unpredictable climate change, will have an insignificant effect on the fish and fresh water and marine fish habitat values in the McNab Creek watershed. We remain opposed to this project.

¹⁰ http://www.thescca.ca/images/2017/SCCA_BURNCO_BCEAO_review_submission_Nov_24_2017.pdf

¹¹ Alt' Kitscm/Howe Sound Community Forum hosted by the Sunshine Coast Regional District, October 13, 2017