Comments on the Environmental Assessment Office (EAO) report on the proposed Burnco development in McNab Creek.

By:
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For
Sunshine Coast Conservation Association (SCCA).

The Environmental Assessment Office (EAO) report appears to be satisfied that the Burnco Project would not have significant adverse effects on Fisheries and Freshwater Habitat in McNab Creek. They have accepted the habitat compensation plan that claims to increase the amount of habitat in the Water Course 2 (WC2) channel by constructing a sinuous extension to the lower section. The 28-hectare and 35-meter deep pit lake has been presented by Burnco to provide an improvement to habitat based on predictions from their groundwater flow models. If these predictions are correct, regulated groundwater flows from the pit lake are expected to improve consistency in the upwelling through spawning gravels and increase rearing habitat quality for all VCs in the WC channels. The EAO report also draws attention to the legislation and conditions that must be met by the proponent, including collection of sufficient baseline data and subsequent monitoring to enable detection of changes to habitat and fish populations throughout the life of the project. It is up to our provincial and federal regulators to ensure sufficient baseline and monitoring data are collected if this project is approved.

The baseline fisheries data collected by Burnco depends heavily on the spawning surveys in WC2. The counts vary widely among years, however, probably because WC2 provides spawning for only a portion of the McNab Creek salmon populations. It is probable that the hub of returning spawning salmon are homing to McNab Creek and strays enter the WC2 channel after spawning habitat in the creek is full. Consequently, estimating changes in abundance of adult spawners using only data from WC2 (the baseline data) will not be sufficient to detect population abundance changes resulting from either habitat improvements (to WC2) or disturbances (from development). As described in previous comments (SCCCS 2016), the abundance of VCs need to be evaluated in the whole watershed (the regional study area, RSA), using calibrated estimates (e.g. mark and recapture), to evaluate whether the offsetting measures successfully follow the guiding principles outlined by DFO (Fisheries Productivity Investment Policy: A Proponents Guide to Offsetting). This is especially true for Coho salmon, which are rare in WC2 and probably spawn predominately in McNab Creek. Currently there have been no baseline data collected that can evaluate the prior condition of fish populations in McNab Creek.

The aggregate mining will remove vast quantities of gravel and leave a permanent 28 Ha and 35m deep pit in the alluvial flood plain of McNab Creek. The development will also require a rezoning in order to proceed, which will significantly alter the types of activities permitted in

the watershed and potentially increase the amount of industrial disturbances over the long term. However, Burnco has focused their fish habitat and fish population monitoring program only to the adjacent reaches of McNab Creek, WC 2 through WC 5 and Harlequin Creek (i.e. within the local study area, LSA). Monitoring changes to the fish abundance in the LSA (e.g. juvenile Coho salmon) is linked to the abundances in the whole populations (i.e. those in the RSA). For instance, presence of spawning adult Coho in the LSA is almost certainly dependent on population abundance in McNab Creek watershed. Likewise, habitat improvements in the LSA are meant to provide benefit to the populations in the RSA. Consequently, to show that the offsetting measures effectively provide benefits to the fishery (e.g. Coho salmon, cutthroat trout), the population in McNab Creek needs to be monitored for many generations including years before and after the life time of the project (e.g. 30 years). For instance, begin with a reconnaissance overview assessment of the RSA to identify key habitats used by the VCs and then design a monitoring program to assess their abundance (e.g. calibrated swim counts, calibrated red counts, pit tagging of juveniles). Only then can Burnco assess the effectiveness of their offsetting measures, and evaluate impacts of the development on population productivity.

Burnco/Golder are making the case in their reporting to EAO/DFO that the blue listed Cutthroat Trout in McNab Creek are not limited and the development in the flood plain is not affecting any limiting factors for the populations. I don't think this is a true statement. I would like to see this rationale detailed more in their reporting, be required, for instance, to sample the species more extensively in the channels, and show that in fact there are no factors present in those 'cutthroat' channels that are key to population productivity. For instance do they spawn in there? I think there are many cutthroat trout rearing and possibly spawning in there. The reporting draws from the literature that says cutthroat prefer natal areas in small tributaries (<1m wide) and located further upstream, which is possibly true for McNab Creek, but they also spawn in other types of habitats, and all migratory populations depend on these small groundwater channels to complete their life history whether they spawn upstream or not. There have been no attempts to evaluate spawning of Cutthroat Trout by Golder/Burnco.

The EA has proposed the following fairly vague conditions:

Considering the preceding discussion, the EAO proposes the following conditions to supplement and enhance the confidence of the assessment of potential effects to fisheries and freshwater habitat:

• Condition #12 (Fish and Fish Habitat), which would require that BURNCO develop a Fish and Fish Habitat Management Plan in consultation with DFO, FLNR, EMPR and Aboriginal Groups, and undertake additional habitat and utilization studies to support fisheries and freshwater habitat monitoring throughout the life of the Burnco Project.

Fisheries Productivity Investment Policy: A Proponents Guide to Offsetting:

- Identify limiting factors associated for each species: for instance what evidence is there that cutthroat trout are not limited in the LSA?

• Condition #13 (Environmental Flow Needs Report), which would set out requirements for baseline and monitoring information on flows in McNab Creek throughout the life of the Burnco Project.

There is no mention anywhere about the impact of constraining the McNab Creek into its current course. Part of the Burnco plan is to build that 'flood protection dyke/sediment berm up slope from their development site'. In our recent enlightened progress toward sustainable development toward including biological diversity in our economic plans, constraining streams, which naturally like to wander across their flood plain if left wild, is not a great way to promote that biological diversity. For instance, is the current channel being scribed by our little stream the best scenario for its inhabitants? Perhaps not. Digging that giant pit takes away the option for the stream to change course, which it will want to do when the large runoff year comes along. The Burnco reporting even indicates in there that some analyses indicate a 200 year cycles for such phenomena in McNab, but this frequency will be more frequent given our changing climatic state.