

**GENERAL INSTRUCTIONS FOR EXCEL TEMPLATE:**

1. Do not leave blank rows above or between comments.
2. Do not modify or delete the instructions or the column headings (*i.e.* the grey areas).
3. Each comment must have an associated topic and recommendation.
4. All formatting (*i.e.* bullets) will be lost when this file is uploaded to the Online Comment Table.
5. If necessary, adjust the cell width and height in order to view all text.
6. Cutting and pasting comments from WORD documents cannot include hard returns (spaces between paragraphs).
7. If you would like to create paragraphs within a single cell, please use a proper carriage return (ALT & ENTER).

<u>TOPIC</u>	<u>COMMENT</u>	<u>RECOMMENDATION</u>
<i>Be as specific as you think is appropriate; for example a section or page of the document, a recommendation #, general comment, etc.</i>	<i>Comments should contain all the information needed for the proponent and the Board to understand the rationale for the accompanying recommendation.</i>	<i>Recommendations can be for the proponent or for the Board. Recommendations should be as specific as possible, relating the issues raised in the "comment" column to an action that you believe is necessary.</i>
Dustfall Effects	The AEMP report (pg.2-2) acknowledges that dust deposition from mine activity could affect water quality at Grizzly, Kodiak and Nema lakes and the PDC, but does not reference the AEMP Re-evaluation Report findings on this matter. The AEMP Re-evaluation Report found that the contributions of dustfall to concentrations of lakewater chemistry variables were considered negligible given that summer dustfall was several orders of magnitude lower than observed concentrations of water quality variables in impacted Ekati lakes (see Re-Evaluation Report pg. 6-3 to 6-12).	RESCAN/DDEC should present these results in the AEMP.
Slimy Sculpin - Inadequate sample size (Table 3.7-10)	Only 2 sculpin were sampled in Leslie Lake. A minimum of 21 sculpin were sampled from all other AEMP lakes. In order to be able to make inter-lake comparisons, there should be a much larger sample size of sculpin in Leslie starting in 2013.	Given that Leslie Lake receives water directly from the LLCF and is the first of a chain of lakes leading to Lac de Gras, DDEC should provide a rationale for the low sculpin sample size for Leslie and clearly commit to a proper sample size for the next regular sampling session in 2015.
Mercury in fish liver (Data Report Table 3.8-46, pdf pg. 297-298)	The AEMP reported mercury levels in trout muscle that were above Health Canada guidelines. No whitefish muscle had this occurrence, but from the Data Report we learn that two old whitefish (19 and 23 year-olds) in Nema Lake had mercury in their livers above the Health Canada guideline. However, this important piece of information (especially to Aboriginal readers) is not reported in the AEMP report. Since the incidence of high mercury levels in old piscivorous fish is not uncommon in natural waterbodies, this may not be a mine effect.	Future AEMP reports should report on elevated metals above Health Canada guidelines in fish livers as well as muscle.
Selenium in fish (p. 3-277)	In Leslie Lake, mean concentration of selenium in whitefish muscle is above BCMOE guidelines (4 mg/kg <u>dry</u> wt), with 19 of 21 whitefish samples above the guideline; 6 of 13 trout muscle samples were also above BCMOE guidelines. These are likely mine effects.	Given that almost the entire Leslie Lake whitefish and half the trout sample populations have levels above the BC benchmark, a discussion is warranted on (a) what this might mean for the health of these populations and (b) possible source reduction strategies for selenium.

Selenium in fish (Table 3.8-1)	Table states “ <i>Mean concentrations [of selenium ]in [whitefish] muscle tissue were below the BC guideline ... in all lakes</i> ”. This is not true for Leslie Lake whitefish as seen in the text (pg. 3-277 and Figure 3.7-82). In fact the majority (19 fish) were above the BC guideline.	DDEC should correct this Table to reflect the information found in the text.
Contamination of fish metals samples (pg. 3-252 of the AEMP Data Report)	The Data Report explains that a contamination issue in metals analysis for sampled fish led to increased detection limits for several metals in trout, whitefish and sculpin. The main AEMP Evaluation of Effects Report makes no mention of this issue and its implications on the overall analysis.	This discussion found in the Data Report should be brought forward into the AEMP Evaluation of Effects Report, to more accurately reflect the overall impact on analysis and interpretation of the AEMP fish metals results.
Dioxins and Furans in fish	Slimy sculpins, a fish species now sampled as part of the AEMP as an early-warning indicator of potential impacts farther up the food chain, were not tested for dioxins and furans. We could find no explanation for this omission. If the problem is a single fish cannot provide enough tissue for testing, an analysis on a composite sample of more than one sculpin would seem warranted.	DDEC should investigate and report on how it can incorporate slimy sculpin into the AEMP's fish monitoring for organochlorines.
Dioxins and Furans in fish (Table 3.7-4)	Only 1 whitefish in Kodiak Lake was tested out of the 22 sampled in Kodiak Lake, instead of 3 in all other lakes monitored for organochlorines. One fish for this species does not provide sufficient evidence to base a finding of no impacts on Kodiak Lake from deposition of dioxins and furans. An Environment Canada study (Wilson et al. 2011) has shown that dioxins and furans in the sediment of Kodiak Lake are well above CCME sediment guidelines for dioxins and furans. We had expected to see sampling of slimy sculpin in Kodiak and control lakes, with analysis for dioxins and furans, to help settle the issue of potential uptake of these contaminants into higher trophic levels.	A sufficient sample of slimy sculpins and round whitefish from Kodiak Lake and at least one control lake, should be collected in the current AEMP field season to determine tissue concentrations of dioxins and furans, to be reported in the 2013 AEMP report.
Nitrate impacts on aquatic food chains (pg.3-99; 3-325 to 326)	DDEC states that changes in quantities or relative bioavailability of macronutrients like nitrogen and phosphorus, not changes in water chemistry, are the most likely underlying cause of change in phytoplankton communities in lakes downstream of the LLCF. Changes in zooplankton community composition in those lakes are likely driven by changes in the availability of nutrients affecting their food source. Leslie, Moose and Nema lakes have higher populations of cyclopoid copepods and lower populations of cladocerans and rotifers than in reference lakes. This may be significant for fish health as stomach analyses for the past few fish monitoring sessions show that cladocera are a preferred food but cyclopoid copepods are not. There is some evidence for this link to fish health as <u>trout</u> growth rates decreased over time in all lakes (Table 3.7-14) and there is a higher trout growth rate in reference lakes compared to monitored lakes (pg.3-192).	Given that nutrients, especially nitrate, is increasing downstream of the LLCF, the effects on fish populations in downstream lakes should be investigated in future. There should be an emphasis on establishing correlations between nutrient increases, phytoplankton community changes and the possible “ripple-effects” up the food chain to fish.
Graphs of plankton and benthos diversity (Fig 3.3-2, 3.4-2, 3.5-2).	Graphs of historic trends for lake plankton and benthos have become difficult to read, even those with fewer lakes displayed (e.g., Fig 3.5-3).	We recommend (a) displaying the reference and impacted lakes on two separate graphs per page, and (b) using more distinct colours, line tracks and symbols.