

**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).

| <b><u>TOPIC</u></b>   | <b><u>COMMENT</u></b>  | <b><u>RECOMMENDATION</u></b>  |
|---|--|---|
| <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> |

| <b>Item Number</b> | <b>Topic</b>    | <b>Comment</b>  | <b>Recommendation</b>  |
|--------------------|-----------------|---|--|
| 1                  | Biota Reporting | Reporting of effects on phytoplankton, zooplankton and benthic communities have been merged into a single biology section for each watershed under the AEMP to provide a better discussion on linkages between water quality and quantity and potential biotic effects. The Agency believes this is a positive change to biota reporting in the AEMP. | DDEC should continue to report its AEMP biological sampling and analyses in a single section for each watershed. |

| Item Number | Topic                         | Comment  | Recommendation  |
|-------------|-------------------------------|--|---|
| 2           | Zooplankton community changes | <p>The Agency has been tracking a decline in cladocera , a formerly abundant class of zooplankton, in Moose Lake. This trend continues, but stretches into the next downstream water body, Nema Lake. For the first time another major zooplankton taxa, rotifers, seems to be disappearing from the zooplankton community. Both cladocera and rotifers are being replaced by copepods as the dominant taxa (see 2014 AEMP p. 3-129 to 3-130). Now that a second taxonomic group of zooplankton has declined in impacted lakes, a special study is warranted to determine cause of the decline of two important components of the zooplankton community — rotifers and cladocera — as well as potential effects up the food chain to fish. The AEMP report authors point to nutrification and its effects on competitive advantage to various zooplankton taxa (2014 AEMP p.3-166). The Agency wonders whether increasing levels of major ions, particularly potassium, may also play an equal or larger role (see 2014 AEMP p. 3-95). A more scientifically rigorous approach to determine the likely drivers of this zooplankton community change is needed.</p> | <p>The WLWB should direct DDEC to conduct a special study to: (a) determine the causes of the changes in zooplankton communities; and (b) determine how these changes in zooplankton community structure may affect fish abundance and fish health.</p> |

| Item Number | Topic                                   | Comment  | Recommendation   |
|-------------|---|--|--|
| 3           | Potassium Response Plan                 | Potassium has now above Site-Specific Water Quality Objectives (SSWQO) in parts of the Koala watershed. AEMP reports have shown declines in Cladocera in lakes downstream of LLCF for a number of years. These changes are attributable to significant declines in <i>Holopedium</i> rather than <i>Daphnia</i> which is the species generally used for toxicity testing. DDEC conducts toxicity testing as part of its Potassium Response Plan. Toxicity tests would be more relevant to Ekati if <i>Holopedium</i> were used as the test Cladocera species alongside the more commonly tested <i>Daphnia</i> . | DDEC should consider using <i>Holopedium</i> in addition to <i>Daphnia</i> in its toxicity testing under the Potassium Response Plan.  |
| 4           | Additional AEMP stations in Lac de Gras | Seven water quality parameters at Lac de Gras north arm stations S2 and S3 have now become slightly elevated. It is important that discharges from the Koala watershed be tracked along the total length of the north arm before it enters the main body of Lac de Gras. There appears to be a need to incorporate temporary stations S5 and S6 into the annual AEMP so that mine-influenced water quality changes can be properly monitored into Lac de Gras.   | The WLWB should direct DDEC to establish and operate AEMP stations S5 and S6 to monitor water and sediment quality and report on the results in the annual AEMP reports beginning as soon as possible. |