APPENDIX 5.2.7A:

AREA 2
The following abbreviations were used for waterbodies

ASSN = Assean Lake
BURNT = Burntwood River near the inlet to Split Lake
HAYES = Hayes River
LMFB = Limestone GS forebay
LNR = lower Nelson River downstream of the Limestone GS
LSFB = Long Spruce forebay
SPLIT = Split Lake
STL-S = Stephens Lake South
STL-N = Stephens Lake North

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<table>
<thead>
<tr>
<th>Waterbody</th>
<th>Map Site IDs</th>
<th>Period of Record</th>
<th>Data Source</th>
<th>Study Program</th>
</tr>
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<tr>
<td><strong>Kettle forebay</strong></td>
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<tr>
<td>At Kettle GS</td>
<td>Kettle GS</td>
<td>1986–1989</td>
<td>Green (1990)</td>
<td>MEMP</td>
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<tr>
<td>At Kettle forebay</td>
<td>Site 5</td>
<td>1990–1994</td>
<td>Manitoba Hydro</td>
<td>LAMP</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Cleugh (1974)/DFO (2015)</td>
<td>LWCNRSB/DFO</td>
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<tr>
<td><strong>Long Spruce forebay</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>NR3</td>
<td></td>
<td>2002–2003</td>
<td>Manitoba Hydro</td>
<td>Keeyask</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2004, 2006, 2009</td>
<td>Manitoba Hydro</td>
<td>Conawapa</td>
</tr>
<tr>
<td><strong>Limestone forebay</strong></td>
<td></td>
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<tr>
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<td>Manitoba Hydro</td>
<td>Keeyask</td>
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<tr>
<td>UHS004</td>
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<td>2009–2013 (2009 and 2011-2012 winter only)</td>
<td>Manitoba/Manitoba Hydro</td>
<td>CAMP</td>
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<td><strong>Lower Nelson River Downstream of Limestone GS</strong></td>
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<tr>
<td>Above the Weir River</td>
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<td>1979–1983</td>
<td>MCWS (2014)</td>
<td>MCWS</td>
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<td>2002–2003</td>
<td>Manitoba Hydro</td>
<td>Keeyask</td>
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<td>Between the Angling and Weir rivers</td>
<td>C-Tu-08</td>
<td>2009 (winter only)</td>
<td>Manitoba Hydro</td>
<td>Conawapa</td>
</tr>
<tr>
<td>Above the Angling River</td>
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<td>2004, 2009</td>
<td>Manitoba Hydro</td>
<td>Conawapa</td>
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<tr>
<td>UHS002</td>
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<td>CAMP</td>
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<td><strong>Lower Nelson River at the estuary</strong></td>
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<td>Site 5'</td>
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<td>Site 2</td>
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<td>2004, 2009</td>
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<td>Conawapa</td>
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Table 5.2.7A-2: Means of water quality indicators measured in the Limestone forebay and the lower Nelson River upstream of the Angling River under CAMP: 2008–2013.

<table>
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<tr>
<th>Metric</th>
<th>Units</th>
<th>LMFB</th>
<th>LNR</th>
</tr>
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<tbody>
<tr>
<td>TP</td>
<td>(mg/L)</td>
<td>0.0378</td>
<td>0.0393</td>
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<tr>
<td>TP Trophic Status</td>
<td></td>
<td>Eutrophic</td>
<td>Eutrophic</td>
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<tr>
<td>TN</td>
<td>(mg/L)</td>
<td>0.41</td>
<td>0.51</td>
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<tr>
<td>TN Trophic Status</td>
<td></td>
<td>Mesotrophic</td>
<td>Oligotrophic</td>
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<tr>
<td>TKN</td>
<td>(mg/L)</td>
<td>0.37</td>
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<tr>
<td>Chlorophyll a</td>
<td>(µg/L)</td>
<td>2.90</td>
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<td>Chlorophyll a Trophic Status</td>
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<td>Mesotrophic</td>
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<td>TN:TP</td>
<td></td>
<td>24</td>
<td>30</td>
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<tr>
<td>DOC</td>
<td>(mg/L)</td>
<td>8.5</td>
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<tr>
<td>Nitrate/nitrite</td>
<td>(mg N/L)</td>
<td>0.0432</td>
<td>0.0501</td>
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<td>Ammonia</td>
<td>(mg N/L)</td>
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<tr>
<td>Dissolved Phosphorus</td>
<td>(mg/L)</td>
<td>0.020</td>
<td>0.020</td>
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<tr>
<td>DO Lower than MWQSOGs for PAL</td>
<td>(Y/N)</td>
<td>N</td>
<td>N</td>
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<tr>
<td>DO – open water season (surface)</td>
<td>(mg/L)</td>
<td>10.55</td>
<td>10.66</td>
</tr>
<tr>
<td>DO – open water season (bottom)</td>
<td>(mg/L)</td>
<td>10.33</td>
<td>10.66</td>
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<td>DO – ice cover season (surface)</td>
<td>(mg/L)</td>
<td>16.44</td>
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<tr>
<td>DO – ice cover season (bottom)</td>
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<td>Thermal Stratification</td>
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<td>Secchi Disk Depth</td>
<td>(m)</td>
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<td>Secchi Disk Depth – open water only</td>
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<tr>
<td>TSS</td>
<td>(mg/L)</td>
<td>10.2</td>
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<tr>
<td>Turbidity</td>
<td>(NTU)</td>
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<tr>
<td>True Colour</td>
<td>(TCU)</td>
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<tr>
<td>Conductivity</td>
<td>(µmhos/cm)</td>
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<td>294</td>
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</table>
Table 5.2.7A-2: Means of water quality indicators measured in the Limestone forebay and the lower Nelson River upstream of the Angling River under CAMP: 2008–2013.

<table>
<thead>
<tr>
<th>Metric</th>
<th>Units</th>
<th></th>
<th>LMFB</th>
<th>LNR</th>
</tr>
</thead>
<tbody>
<tr>
<td>TDS</td>
<td>(mg/L)</td>
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<td>Hardness</td>
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<td>Hardness Category</td>
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<td>Hard</td>
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<td>pH</td>
<td>-</td>
<td></td>
<td>8.21</td>
<td>8.24</td>
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<tr>
<td>Total Alkalinity</td>
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<td></td>
<td>101</td>
<td>100</td>
</tr>
<tr>
<td>Metals &gt; MWQSOGs for PAL</td>
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<td></td>
<td>Al, Fe</td>
<td>Al, Fe, Se</td>
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<td>Aluminum</td>
<td>(mg/L)</td>
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<td>0.785</td>
<td>0.719</td>
</tr>
<tr>
<td>Iron</td>
<td>(mg/L)</td>
<td></td>
<td>0.612</td>
<td>0.599</td>
</tr>
<tr>
<td>Mercury (&lt;0.000026 mg/L DL only)</td>
<td>(mg/L)</td>
<td></td>
<td>0.0000019</td>
<td>&lt;0.000020</td>
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<tr>
<td>Mercury (0.000001 mg/L DL only)</td>
<td>(mg/L)</td>
<td></td>
<td>0.0000019</td>
<td>&lt;0.0000010</td>
</tr>
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<td>Calcium</td>
<td>(mg/L)</td>
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<td>29.0</td>
<td>30.2</td>
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<tr>
<td>Magnesium</td>
<td>(mg/L)</td>
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<td>Potassium</td>
<td>(mg/L)</td>
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<td>2.89</td>
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<td>Sodium</td>
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<td>Chloride</td>
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<td>Sulphate</td>
<td>(mg/L)</td>
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<td>28.4</td>
<td>25.6</td>
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</tbody>
</table>
Figure 5.2.7A-1: Total phosphorus concentrations in the lower Nelson River downstream of Stephens Lake from 1972–2013 and comparison to trophic categories.
Figure 5.2.7A-2: Total nitrogen concentrations in the lower Nelson River downstream of Stephens Lake from 1972–2013 and comparison to trophic categories.
Figure 5.2.7A-3: Chlorophyll $a$ concentrations in the lower Nelson River downstream of Stephens Lake from 1972–2013 and comparison to trophic categories.
Figure 5.2.7A-4: Total phosphorus concentrations in the lower Nelson River downstream of Stephens Lake from 1972–2013 and comparison to the Manitoba narrative nutrient guidelines.
Figure 5.2.7A-5: Total phosphorus concentrations measured by MCWS/EC in Split Lake, the Nelson River above the Weir and in the Hayes River (an off-system reference site) from 1979–1982.
Figure 5.2.7A-6: Mean±SE concentrations of chlorophyll a measured in the Limestone forebay and the lower Nelson River downstream of Limestone under CAMP (2008-2013).
Figure 5.2.7A-7: Total suspended solids in the lower Nelson River downstream of Stephens Lake from 1972–2013.
Figure 5.2.7A-8: Total suspended solids at sites along the lower Nelson River, 2002–2013.

Figure 5.2.7A-9: Mean±SE Secchi disk depths measured in the Limestone forebay under CAMP.
Figure 5.2.7A-10: Surface dissolved oxygen in the lower Nelson River downstream of Stephens Lake from 1972–2013. No data were available for the Kettle forebay.
Figure 5.2.7A-11: Laboratory measured pH in the lower Nelson River downstream of Stephens Lake from 1972–2013.
Figure 5.2.7A-12: Hardness measured in the lower Nelson River downstream of Stephens Lake from 1972–2013.
Figure 5.2.7A-13: Alkalinity measured in the lower Nelson River downstream of Stephens Lake from 1972–2013.
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Figure 5.2.7A-15: Magnesium concentrations measured in the lower Nelson River downstream of Stephens Lake from 1972–2013.
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Figure 5.2.7A-22: Mean±SE concentrations of aluminum measured in waterbodies along the lower Nelson River system under CAMP (2008–2013) and comparison to the Manitoba PAL guideline.
Figure 5.2.7A-23: Mean±SE concentrations of iron measured in waterbodies along the lower Nelson River system under CAMP (2008–2013) and comparison to the Manitoba PAL guideline.

Figure 5.2.7A-24: Selenium concentrations measured in the lower Nelson River upstream of the Angling River during CAMP: 2008–2013.