Preliminary Comments on DRAFT Lower Boise River TP TMDL

Submitted to: DEQ

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DEQ has requested comments from Lower Boise Watershed Council members on the Draft Lower Boise River Total Phosphorus TMDL (January 2015 draft). The following preliminary comments are primarily directed toward TMDL development and allocations. Please note that these are preliminary comments and may be modified or expanded for submittal as part of my comments to be submitted during the formal public comment period.

General TMDL Comments

Not supportive of wastewater wasteload allocation of 100 ug/L. As I stated many times in the past, I believe there is too much uncertainty in load estimates, modeled reduction and implementation to support a wastewater allocation over 70 ug/L for municipal treatment facilities.

The uncertainty of load estimates and modeled reductions is understandably difficult to reduce. However, assigning tributaries, drains and groundwater a target of 70 ug/L (except where adjusted for the extra wastewater wasteload allocations) and then adding an additional wastewater load into the watershed seems counter-productive. This extra allocation would reduce the load for phosphorus trading, which is considered to be a major funding source for the voluntary non-point source reductions that are proposed. Furthermore, wastewater is already given a "reserve for growth" by allowing facilities to discharge at design rather than current discharge rates, further increasing the phosphorus loads that will be discharged into the watershed.

If in fact there is some estimated extra capacity, it would be more prudent to hold this load in reserve to either address future growth in areas where capacity is most limited (likely the lower end of the watershed), or "retire" the load if future conditions indicate targets are not being met.

Not supportive of the Nuisance Algae Target as applied. The periphyton target is represented in the modeling as a "Mean monthly benthic chlorophyll *a* of < 150 mg/m2" (e.g., page 17). This was selected based on work done on the Clark Fork River. However, it appears based on the same information, a mean of 100 along with a maximum of 150 was used for the Clark Fork River, and much of western Montana. This indicates that the Boise River target could be underprotective, and could lead to 50% more periphyton than anticipated. It should also be noted that the newer nutrient criteria recommended for control nuisance periphyton indicate that both phosphorus and nitrogen controls are needed (Suplee et al., 2013).

Quantification of septic systems loads is needed. Septic systems are identified as part of nonpoint source load (page 98), but there is no quantitation to estimate the fraction of the total nonpoint load. Rough estimates of septic TP loads indicated that the phosphorus loads from septic systems could easily exceed some of the other sources identified (i.e., smaller tributary point sources (excluding Nampa and

Meridian), background, fish hatcheries, or wet weather stormwater). The lack of a more informed assessment of this potentially substantial current and "growing" contribution to the watershed appears to be a major flaw in the TMDL.

Model Comments

The following are comments and concerns regarding AQUATOX model development and application within the TMDL:

Nitrogen and organic matter targets and allocations should be considered. The Final Model Scenario (#3) included reductions in nitrogen and organic matter (Pg 116), and an adjustment of the initial conditions to levels similar to upstream of Boise (i.e., Segment 1). These reductions and adjustments need to be more fully explained in section on "Final AQUATOX Model Scenario and TMDL Allocation Structure". Furthermore, it was noted that without these reductions the targets cannot be met. This suggests that nitrogen and organic matter targets and allocations should be considered.

Modeled yearly average periphyton "over-averaged". The modeled yearly average periphyton (Pg 123; Figure 47) represents an annual averaged level that covers too long a period to be informative. And, more importantly, this figure is used to support the conclusion that reducing TP to lower levels will not reduce periphyton. This conclusion seems counter to a body of technical literature (e.g., Suplee et al., 2013), and is not consistent with the lower periphyton levels reported for the upper reach of the river..

Maximums needed to be presented. Maximums (or 95 percentile) periphyton concentrations should be assessed when considering acceptable peripyton reductions. To do this, Figures 48 and 49 (~Pg 124) should be revised to show modeled range of periphyton. This will allow the reader the ability of see the range of modeled predictions and reductions at each of the segments, and better understand how well targets are met.