

APPENDIX H

RESPONSE TO PUBLIC COMMENTS

The public comment period for *The West Fork Gallatin River Watershed Total Maximum Daily Loads (TMDLs) and Framework Watershed Water Quality Improvement Plan* was initiated on August 24th, 2010 and concluded on Sept 13th, 2010. A public meeting was held in Big Sky, MT on August 25th.

A single comment letter was submitted to DEQ by the Blue Water Task Force during the public comment period. Original comment letters are held on file at the DEQ and may be viewed upon request.

Commentor: Kristin Gardner, Blue Water Task Force

Thank you for allowing comment on the West Fork Gallatin Total Maximum Daily Load and Framework Watershed Water Quality Improvement document. I recommend that the following items be addressed in the document:

Comment #1:

Page 68, Section 6.4.3: Background and/or reference for considering HIBI < 4.0 for further evaluation for nutrient compliance.

DEQ Response to Comment #1:

HIBI values and their utilization as supplemental indicators of nutrient impairment are addressed in the assessment methodology, *Assessment Methodology for Determining Wadeable Stream Impairment due to Excess Nutrients (Nitrogen and Phosphorus)* (Suplee, M., and R. Sada de Suplee. 2010). The document has been modified to clarify that HIBI value evaluation is included as part of the assessment methodology referenced above.

Comment #2:

Page 96, Section 6.5.2, Figure 6-17: I am concerned by potential interpretation of decreasing algae trends in time. Our contractor, Jeff Dunn (PBSJ), mentioned that he was worried that lower levels of chlorophyll a were measured because of the new DEQ chlorophyll a sampling methods. He did not visually observe decreasing algal densities over time. I also have not visually observed less algae over time. I believe that there should be a note discussing precaution in interpreting the lower levels b/c of the change in methodology. The decrease of algae over time was brought up by a member in the audience at the public meeting. Also, nitrate data collected by the Blue Water Task Force does not suggest lower nitrate concentrations over time. You cannot tell this by looking at the plots on Figure 6-18 because they are 3 year averages – can you separate out this plot so that one can distinguish between years?

DEQ Response to Comment #2:

Figure 6-17 is not intended to show changes in algal conditions over time, but to illustrate chlorophyll-a concentrations recorded during three distinct sampling events. Sampling methods utilized in 2005 entailed collecting 5 algae samples from a single reach transect. Sampling methods utilized in 2008 entailed collecting a single algae sample from each of 11 transects

through the reach. The DEQ believes that the 11 transect method better represents algal conditions for the *entire reach* being assessed; however no formal evaluation or comparison of the two methods has been conducted.

It is likely that differences in chlorophyll-*a* concentration witnessed over time are not the result of a change in methodology, but a function of late season algal senescence. Algal biomass, as measured by ash-free dry weight (g/m^2) was very high ($>200 \text{ g/m}^2$) in August of 2008, even while chlorophyll-*a* concentrations were low, indicating that substantial algae was present, yet had begun to die off (senesce) thereby reducing its chlorophyll-*a* content. DEQ acknowledges that algal conditions in the West Fork Gallatin and South Fork West Fork Gallatin River have not decreased substantially over time, as photographic assessments of algae as well as observations by contractors and local researchers attest.

Figure 6-18 illustrates average NO_3+NO_2 loading conditions observed over time in the West Fork Gallatin River, and is shown to support average loading reductions needed to meet water quality targets. DEQ acknowledges that this chart represents an average summer condition, but also provides loading conditions observed during sampling events in 2006, 2007 and 2008 (Figures 6-19 through 6-23, Appendix A) where stream flows allowed calculation of NO_3+NO_2 loads.

Modifications were made to document Section 6.5.2 to clarify algal observations and biomass results. Likewise, Figures 6-17a through 6-17h were added to Appendix A to illustrate algal densities over time through the reach.

Comment #3:

Section 6.5.3: There are no plots of algae or nitrate in the South Fork. I suggest you add them. Also, can you emphasize the need for future study in the South Fork to determine why there was excess algae levels in the Lower South Fork – maybe this should go in Section 8.0?

DEQ Response to Comment #3:

Plots and tables of NO_3+NO_2 concentrations (Figure 6-30, Table 6-32) and figures of algal concentrations (Figures 6-31 through 6-40) were added to clarify algal conditions observed in the South Fork West Fork Gallatin River. The discussion of NO_3+NO_2 and algal conditions in Section 6.5.3 has also been modified to better describe nutrient conditions observed in the South Fork. Additionally, Section 8.0 was modified to address the need to further address nuisance algal growth in the South Fork West Fork Gallatin River.

Comment #4:

References: A few cited references are missing. Page 145, cites DEQ 2007 Nonpoint Source Management Plan. Also page 149, EPA construction BMPs cited as EPA, 2009.

DEQ Response to Comment #4:

DEQ has made the changes and thanks you for your thorough review.