

## APPENDIX I – RESPONSE TO PUBLIC COMMENT

One comment letter was received during the public comment period. The comments and DEQ's comment responses are presented below. Two minor editorial comments are not included. The original comment letter is held on file at DEQ and may be viewed upon request. Within the comments, KNF refers to the Kootenai National Forest and NFSL refers to National Forest System Lands.

**Comment #1:** At the meeting on August 11, 2011, I was pleased to hear the DEQ acknowledge the progress the KNF has made with regard to sediment reduction in the Tobacco Planning Area. As you are aware, the actions implemented on NFSL are more strictly regulated than those on private land. Therefore, data collected on NFSL does not represent the effects of similar activities on lands under different ownership. Given the Best Management Practice (BMP) work we do on our roads and in our timber management activities I would still like to see stream segment designations that reflect the change in ownership from Federal land to private land. I believe by doing this many segments of streams on Federal land would not warrant a TMDL and could in fact be removed from the 303D list.

**DEQ Response to Comment #1:** We agree that in the Tobacco watershed, the existing land management practices within the National Forest boundaries are more protective of water quality than most land management practices elsewhere in the watershed. Nevertheless, the convention used by DEQ for splitting segments does not provide for adjustments based solely on ownership or impairment status. In some situations, two or more reaches within a segment were evaluated separately where the amount of available information was sufficient for each reach. For example, Edna and Fortine Creeks have evaluations focused on separate segment reaches. Even when reaches are evaluated separately, impairment for one reach is applied to the whole segment. Although identifying the specific reaches within a segment where the impairment occurs can help focus future monitoring to evaluate restoration progress, it is equally important to identify the complete watershed area where BMPs need to be applied and/or maintained to ensure continued stream health. The existing segment delineations in the Tobacco watershed helps promote this holistic approach to watershed management.

**Comment #2:** There is a question in my mind whether data gathered at pre-selected sites, rather than at randomly selected sites, should be extrapolated. However, if that is the method you choose to use, at minimum, I would like to see data gathered on NFSL being extrapolated only to the other NFSL and data gathered on private land being extrapolated only to the other private land. Based on the different management standards the ownerships are held to this is the only way I can think of to accurately portray the existing situation on the ground.

**DEQ Response to Comment #2:** The use of a stratified design, whether it is based on Rosgen stream type or stream transport/depositional reaches, is a common approach for selecting sampling sites to evaluate sediment and habitat conditions in cold water streams in the Western United States. As described in the second paragraph of **Section 5.3.3**, streams were stratified "into reaches that allow for comparisons among those reaches of the same natural morphological characteristics, while also indicating stream reaches where land management practices may further influence stream morphology." It is further noted that "although ownership is not part of the reach type category, because of the distribution of private and federal land within the watershed, most reach type categories contain predominantly either private or public lands."

**Section 5.3.3** further states that “monitoring reaches were chosen with the goal of being representative of various reach characteristics, land use category, and anthropogenic influence.” It is also noted that “there was a preference toward sampling those reaches where anthropogenic influences would most likely lead to impairment conditions since it is a primary goal of sediment TMDL development to further characterize sediment impairment conditions.” This sample selection approach is independent of ownership and instead attempts to collect data along reaches where problems are likely to occur. Due to the number of assessment sites that time and resources allowed for sampling, DEQ determined that random selection of sites within a stratified reach category would not necessarily meet the goals of representativeness and impairment characterization described above

For bank erosion estimates and bank erosion extrapolation purposes, DEQ completed additional sampling to gather data from a larger subset of reach types. This data, along with the original targeted locations for the full suite of sediment and habitat parameters, helped increase the accuracy of the bank erosion estimates documented within **Appendix E**. Bank erosion extrapolation across ownership (i.e. between federal and private lands) is somewhat limited based the above discussion. Nevertheless, where such extrapolation does occur, we have determined that the stratification process provides a fair representation of ongoing and historical bank erosion impacts based on similar land use and other natural characteristics.

**Comment #3:** If appropriate I’d like to see the document state that Forest Service management, with BMP implementation, will not further contribute to the degradation of these streams. Where appropriate I would also like the document to state that the Forest Service has implemented BMPs on their roads and in the watershed and no additional sediment sources on NFSL have been found. To continue with our important Forest management work it is vital that we be able to show the public, stakeholders, critics, etc. that our science-based regulations are working and not contributing to the degradation of our waterways.

**DEQ Response to Comment #3: Section 5.7.4** “Meeting the Intent of TMDL Allocations” includes the following language: “It is important to recognize that the first critical step toward meeting the sediment allocations involves applying and/or maintaining the land management practices or BMPs that will reduce sediment loading. Once these actions have been completed at a given location, the landowner or land manager will have taken action consistent with the intent of the sediment allocation for that location.” **Section 5.7.4** further states that “it is also important to apply proper BMPs and other water quality protection practices for all new or changing land management activities to limit any potential increased sediment loading.”

The sediment allocations for Forest Service management activities link directly to standard BMPs for road crossings, harvest activity and protection of riparian areas including prevention of bank erosion. If the Forest Service implements all applicable BMPs for future projects and existing infrastructure (e.g. appropriate road erosion BMPs and culverts upgrades), then the Forest Service will be meeting the sediment allocations and it is the assumption within this document that ongoing Forest Service management activity will not be contributing to stream degradation. Basically, we believe that when the Forest Service applies BMPs for new management activities, along with appropriate culvert upgrades as defined within **Section 5.7.2.3.3**, it is being protective of water quality. Most of our concerns on Forest Service lands link to historical practices or existing road networks. The results from this TMDL work indicate

that many or most stream reaches within Forest Service boundaries are generally in fair to good condition and are either at or closely approaching full support of all beneficial uses.

It is true that the Forest Service has implemented many BMPs to reduce sediment loading. During the 2008 assessment of a mix of private and federal road crossings, the majority of all identified road BMPs were associated with Forest Service road crossings as documented within **Appendix G, Section G5.2**. Forest Service road crossings also had the best performance regarding culvert flood passage capabilities as documented within **Appendix G, Section G4.2**. Based on our discussions with Forest Service staff, it is our understanding that the Forest Service has significantly increased BMP implementation for their road crossings since the 2008 TMDL road assessment work. Since the 2008 TMDL field assessment work, no additional formal assessment work has been completed. Therefore DEQ has not identified any additional sediment sources within Forest Service property beyond those documented within this TMDL document. DEQ agrees it is important to recognize the widespread BMP implementation and resulting improvements made by the KNF. The conclusions within this document represent an assumption of conditions throughout the watershed based on the subset of road crossings and culverts that were evaluated in 2008. At this time, we do not have sufficient information to make updated statements regarding presence or absence of sediment sources from National Forest Service lands.

**Comment #4:** Page 3-2: Lime Creek “N” for aquatic life and cold water fishery? There are fish in this stream.

**DEQ Response to Comment #4:** DEQ describes impairment as either partially supporting or not supporting based on assessment results. Not supporting is applied to not meeting a drinking water standard and is also applied to conditions where the assessment results indicate a severe level of impairment of aquatic life or coldwater fishery. A non-supporting level of impairment does not equate to complete elimination of the use. The above language has been added to **Section 3.1** to clarify this use of “not supporting” and “partially supporting” terminology.

As discussed in **Section 5.4.2.4**, DEQ’s 2003 assessment of Lime Creek noted severe grazing impacts near the mouth of Lime Creek, thus resulting in a “not supporting” determination for aquatic life and coldwater fishery. As further discussed within the document and as noted by staff during TMDL development and during subsequent additional site visits, stream conditions have significantly improved along the lower reaches of Lime Creek as a result of improved land management practices by the Kootenai National Forest.

**Comment #5:** Page 5-3, 3<sup>rd</sup> full paragraph: Very nice description of how information gathered from low gradient reaches (typically private) may not be representative of higher gradient upstream reaches (typically USFS).

**DEQ Response to Comment #5:** No response necessary

**Comment #6:** Page 5-8, Table 5-3: W/D ratios can vary widely based on geology and/or other factors. Setting the target at 21 (for example) for both B and C channels is not appropriate. These channel types are not expected to have the same WD ratio. In Rosgen (1996) the average W/D for a C3 and C4 stream

was 33 and 29 respectively, well above the target in this document. In addition, Rosgen did not set upper limits with W/D. Having a high W/D does not necessarily mean a stream is in an unnatural state.

**DEQ Response to Comment #6:** DEQ agrees that W/D ratios can vary widely based on geology and/or other factors, which is why Rosgen values (which are derived across a wide range of settings) are used to define channel types and as a general guide, but regional or local reference values are preferred for setting targets. Most assessment reaches were identified as being potential B/C channels versus B or C with predominantly gravel substrate (i.e. particle size category 4), so it seemed easier for target application and interpretability to combine the target value for the B and C channel types and not set separate values by dominant particle size. Additionally, in the KNF reference dataset, the 75<sup>th</sup> percentile W/D for B channels was 21 and for C channels was 18. Since C channels typically do have a larger W/D ratio, the higher value (21) was chosen as the target for B/C channels with a bankfull width less than 30 feet.

Although we agree that an elevated width to depth (W/D) ratio value does not always mean a stream is in an unnatural state, we also recognize that an elevated width to depth (W/D) ratio is one of the more recognized measures of negative impact to a stream, especially when there are existing or historical human impacts to the stream channel or riparian corridor that appear to correspond to elevated W/D ratios. Therefore, W/D ratio is used as a target parameter consistent with the multiple measures approach defined within the second paragraph of **Section 5.4.1**.

**Comment #7:** Page 5-9: We are still unclear as to why certain quartiles of reference data distribution (75%, for example) are being used to set targets. Why wouldn't you set the target as the range of values observed in reference streams which are similar in hydrologic characteristics to each impaired stream? Also, why not break out percent fine sediment by channel type, just as you have done for W/D ratio. You would expect natural sediment levels to be quite different among the varying channel types.

**DEQ Response to Comment #7:** Each target value does indirectly represent a range. For example, a target value for percent fines of  $\leq 15\%$  represents a range of values from 0% to 15%. Defining a range is not necessary since, for this example, it is the upper limit, along with consideration regarding how much stream conditions are above this upper limit, that defines whether or not stream conditions appear healthy. Where targets values are defined by ( $\geq$ ), the logic is the opposite in that the range is anywhere above the identified value.

As in our data review for W/D ratios, fine sediment values were evaluated by channel type. However, based on the similarity in values between B/C channel types in the reference dataset and the fact that most assessment reaches were identified as having a potential channel type dominated by the same particle size category (i.e. gravel), target values were not broken out by particle size. However, since E channels tend to have a greater percentage of fine sediment than B and C channels, separate target values were set for B/C channels and E channels. This approach to setting fine sediment targets is consistent with other sediment TMDLs completed by Montana DEQ, and the values are comparable to values from other reference datasets and literature.

**Comment #8:** Page 5-11. Target development for W/D ratio of small streams (<30 ft) uses KNF reference data, while those wider than 30 ft. use PIBO reference data. Why not use PIBO reference data for both to ensure consistency?

**DEQ Response to Comment #8:** Although the goal is to use the same reference data set for each parameter, the use of multiple reference data sets can sometimes be a more desirable approach based on influences such as sample size, stratification of reference stream results and/or assessment methodology. The KNF values for smaller streams (bankfull width < 30 ft) were preferred over the PIBO data because of the KNF data represents a more local regional reference data set, the KNF data has a significantly higher sample size of 94 versus the 44 for the PIBO data set, the values are consistent with sediment targets for similar stream sizes in other DEQ sediment TMDL documents, and because the KNF data provides the appropriate level of water quality protection based on results and observations regarding achievable width to depth ratio potential for the assessed streams.

Unfortunately the KNF reference sample size for larger streams (bankfull width > 30) is only 7, whereas the equivalent PIBO sample size is 47. Therefore, the 35 value from the PIBO data set was used for the target value. Although this value is higher (and less protective) than the 29 value from the smaller KNF data set, it is consistent with sediment targets for similar larger stream sizes in other DEQ sediment TMDL documents and is considered appropriately protective based on results and observations regarding achievable width to depth ratio potential for the assessed streams.

Additional language has been added to **Section 5.4.1.2** to help clarify the rationale for W/D ratio target value selection.

**Comment #9:** Page 5-12. Trends in residual pool depth may be more meaningful than looking at absolute numbers.

**DEQ Response to Comment #9:** We agree that trends in residual pool depth, as well as other target parameters, would be useful in evaluating progress toward meeting a stream's ultimate potential. The numbers presented as target values within the document, as well as for any other target parameter, provide measures to help evaluate each stream's health based on our existing knowledge and available data. Adaptive management for target values, as discussed in **Section 5.9.1**, recognizes the potential for modifying target values as more information is obtained, particularly in regards to target achievability and/or a stream's potential. Trend data can contribute significantly toward this adaptive management approach. This is supported within the document where the **Section 5.4.1** discussion on water quality targets states: "for all water quality targets, future surveys should document stable (if meeting criterion) or improving trends". The recently collected data for TMDL development helps provide a baseline for future trend assessment work.

