

APPENDIX J

RESPONSE TO PUBLIC COMMENT

The formal public comment period for the Prospect Creek Watershed Sediment TMDLs and Framework for Water Quality Restoration document, extended from January 14, 2008 to February 13, 2008. Four individuals/organizations submitted formal written comments. Commentors include one private individual, Montana Department of Natural Resources, United States Forest Service (Lolo National Forest), and ConocoPhillips (Yellowstone Pipeline Company). Their comments have been reprinted or summarized/paraphrased and organized by document section. Responses prepared by DEQ follow each of the individual comments. The original comment letters are located in the project files at DEQ and may be reviewed upon request. Where specific modifications to the document have been made in response to comments, they are noted in the responses.

In addition to the comments below, several general comments that mainly included grammar errors and missing information were addressed by modifying the final document. These comments were all addressed and since they were minor in extent, are not summarized below.

1. Comments to Section 1.0 Introduction

Comment 1.1: Introduction Section 1.1, 1st paragraph – I would consider Crow Creek more of a major stream than some of the others listed.

Response to 1.1: Crow Creek has been included in the list of major tributaries to Prospect Creek.

2. Comments to Section 4.0 Existing Condition, Targets, Departure Analysis and Water Quality Summary

Comment 2.1: Table 4-1, Pool Frequency Method – longitudinal profiles are more time consuming and costly; suggest you include wording for other methods (e.g. R1/R4 or similar) like what is included in Table 9-1

Response to 2.1: Other methods for quantifying pool frequency are appropriate as long as they are consistent in how pools are identified and represent an appropriate scale. Table 4-1 has been revised to be consistent with the wording in Table 9-1.

Comment 2.2: Page 28, 2 – “For example, flood flows may be necessary to help move excess bedload size material through the system under conditions where width to depth and other stream morphology conditions can effectively transport excess material.” Reword; even flood flows may not have sufficient hydraulics to move excess bedload if channel geometry, especially width-to-depth ratio is too high.

Response to 2.2: This paragraph has been modified so as not to imply that natural events such as flood flows are a necessary element in meeting targets. It is suggested that flood

flows may provide a useful function if the channel morphology conditions are within the target range for those parameters.

Comment 2.3: Pg. 46: (Section 4.2.1.9 Riparian Vegetation, Existing Conditions and Departure Analysis): The supporting sediment target values for % canopy cover should include an exception or modified target for utility corridors. Removing vegetation along the operating YPL pipeline corridor is necessary for safety and maintaining pipeline integrity. YPL limits the clearing to only 20 feet of the 40-foot right-of-way but it is unrealistic to expect 60% to 75% canopy cover along this corridor.

Response to 2.3: The % canopy target is based on a review of aerial assessment data, densiometer field study, and areas of least disturbed riparian canopy. The target is developed for the protection of the beneficial uses for the waters of the State of Montana. It is acknowledged that in some cases, vital infrastructure such as roads, powerlines, or pipelines may not allow full achievement of a given target at a given location however these cases should be reviewed and accepted on a site by site, or reach by reach basis. It is not deemed appropriate to exempt utility corridors when in some cases alternatives may exist within current management or for future development/upgrades that could allow for meeting the target goals.

Comment 2.4: Pg. 47: (Section 4.2.1.9 Riparian Vegetation, Existing Conditions and Departure Analysis): The first paragraph provides a summary of the percentage of each reach on Prospect Creek exceeding the riparian canopy density target by 10%. What is the relevance of this information and why not just report the percentage meeting or exceeding the target since that is the most meaningful number in terms of meeting the TMDL.

Response to 2.4: Summary statistics have been changed to represent the percentage of sites within a reach exceeding the riparian canopy target.

Comment 2.5: Pg. 52 (Section 4.3.1 Prospect Creek Mainstem, Water Quality Summary): The final paragraph states that aquatic life and cold water fish are impacted by elevated temperature yet no temperature data is provided in this section to support the conclusion. At the least, a reference to Appendix I (temperature) should be included.

Response to 2.5: Reference to Appendix I has been included.

3. Comments to Section 5.0 Source Assessment and Sediment Quantification

Comment 3.1: Pg. 64 (Section 5.3.1, BEHI Methods): The DEQ provided YPL with the raw field data used in the BEHI analysis. We provided informal comment to the DEQ based on our review and analysis of the field data specifically for those sites where YPL was listed as contributing to bank erosion (comments submitted to DEQ in April 2007 by Don Bristol, YPL). YPL will use this data as a guide when evaluating our role in proposed future stream restoration efforts that involve areas of Prospect Creek potentially impacted by pipeline activities.

Comment 3.2: Pg. 66 (Section 5.3.1 BEHI Methods): The third paragraph on page 66 states that “In the case of multiple influencing factors, percent contribution was assigned accordingly”. YPL reviewed the BEHI data provided by the DEQ and we don’t recall seeing “percent contribution” values for those sites where multiple influencing factors were noted. Please clarify if this was actually done and if so, what were the criteria for determining percentages and how is that data reflected in the TMDL? While we agree that the “assignment of bank erosion influences among the anthropogenic factors is coarse”, we are concerned that assigned percentages could be misused and therefore would like further explanation and access to this data for our review.

Response to 3.2: Percent contribution values were NOT assigned among multiple anthropogenic influences. The statement has been omitted from the document and the paragraph revised.

Comment 3.3: Section 5.3 – Somewhere note bank erosion from Crow has decreased with implementation of a recent stream project. The bulk of the surveyed bank erosion was observed in the restored reach.

Response to 3.3: Work that has been done since the time of the source assessment and sediment quantification, and its potential influence on the current relative rankings and sediment loads has been acknowledged at the end of Section 5.6. The stream project on Crow Creek referenced in Comment 3.4 is also described in Section 8.2.1.

Comment 3.4: Table 5-12 – Crow and Lower are equal rather than Crow being less of a source than Lower as the wording suggests: “The relative rankings show that the Upper and Lower Prospect Creek watersheds are the most significant areas of sediment input, followed by Crow Creek,...”, and does road sanding really fit into this table since it was analyzed by separating into only Upper and Lower Prospect watersheds? Removing it would not really change the overall ranking/conclusions.

Response to 3.4: Wording has been changed to identify Upper Prospect as being the most significant area of sediment input according to the relative ranking scheme, and that Lower Prospect and Crow are next in order of significance.

The relative ranking scheme is a very simplified tool for identifying those subwatersheds where efforts may need to be focused. While road sanding only pertains to Upper and Lower Prospect subwatersheds it is an additional sediment load for those subwatersheds that should be accounted for.

4. Comments to Section 6.0 TMDLs & Load Allocation

Comment 4.1: Pg. 80, (Section 6.3.1 Prospect Creek Total Maximum Daily Load): Table 6-1 lists a value of 50,503 tons/year as the estimated load from bank erosion from anthropogenic non-point sources for Prospect Creek. This load is then used as the basis for calculating the resultant load when the TMDL allocation (80% reduction in bank erosion) is applied. Table 5-11 (pg. 75) lists a value of 50,503 tons/year as the estimated load from human caused bank erosion

for the entire Prospect Creek watershed (including Prospect Creek, Clear Creek, Cooper Creek, and Dry Creek) whereas Table 5-6 (pg. 70) gives a value of 40,519 tons/year as the estimated load from human caused sources for Prospect Creek. Why isn't the TMDL for Prospect Creek based on the 40,519 tons/year rather than the 50,503 tons/year? Is this TMDL for Prospect Creek or for the entire Prospect Creek watershed? This needs to be clarified and all the values reported in Table 6-1 need to be checked because several are different from those reported in Table 5-11 (e.g. culverts) which summarizes sediment loads from all sources in the entire watershed.

Response to 4.1: The TMDL is based on the 50,503 tons/year from the entire watershed. Sediment from bank erosion in tributary streams will also eventually make its way into Prospect Creek and therefore all loads from the other studied streams are included. The TMDL for Prospect Creek is the Total Maximum Daily Load that Prospect Creek can assimilate and therefore the TMDL is specific to that stream. Since other streams within the Prospect Creek watershed had TMDLs developed as well, a TMDL applied at the Prospect Creek watershed scale would consequently be applied at the subwatershed scale and potentially conflict with the other stream specific TMDLs. 6.3.1 states “This 58% value is based on information provided in the **Section 5.0** (Source Assessment) and a determination that approximate reductions from the Prospect Creek watershed as a whole cumulatively account for an approximate 58% reduction in sediment load and is achievable by addressing the major human caused sources described in this section.”

Comment 4.2: 6.3.2.1, Page 81-82 – Is there evidence to support that BMPs would result in 80% reduction in bank erosion?

Response to 4.2: The 80% reduction is based on best professional judgment. The 80% reduction is applied to those banks that are eroding due to anthropogenic influence. A stabilized bank, by definition, should produce no more sediment load than it would under “normal” or natural conditions. Under perfect circumstances, one would prefer a 100% reduction from anthropogenically caused bank erosion however the DEQ realizes that this is not a likely scenario, especially given the infrastructure that influences so much of the stream and tributary corridors in the Prospect Creek watershed. In many cases, simply allowing vegetation to grow and banks to recover may be adequate, in time, to effectively reduce anthropogenically caused bank erosion.

Comment 4.3: 6.3.2.3, Page 83, Culverts – Under Rationale, add that the meeting Q100 flow is also consistent with USFS Region 1 direction for accommodating aquatic organism passage.

Response to 4.3: This comment has been added to the document.

5. Comments to Section 8.0 Water Quality Restoration Plan Implementation Strategy

Comment 5.1: General wording in this section comes from the “Phase I document” and could be re-worded in places to seem less pre-decisional and more as recommendations/suggestions.

Response to 5.1: Yes, some parts of Section 8.0 come from the 2004 Phase I document. That document and subsequent documents including this one have developed strategies for implementation through discussion and prioritization with stakeholders. In doing so, projects have been included that are, in many ways, pre-decisional, and in actuality some of those projects outlined in the 2004 document have been completed. However, the Implementation Strategy is not a required component of the TMDL and is included to assist stakeholders to direct efforts that will eventually aid in attaining the TMDL. Additionally, there is no precedence that says these projects and strategies must be specifically followed to attain the TMDL; rather it is a guide based on discussion with vested stakeholders and the data and analysis that has occurred over the last few years. The section has been reviewed and reworded where it seems the Implementation Strategy conveys a “must do” as opposed to a “should do”.

Comment 5.2: Page 93, Under YPL - Is there evidence (e.g. monitoring data) that demonstrates the riparian condition has been improved? I would state that “... these low growing species are anticipated to provide a significant improvement...”, since the project was implemented less than one year ago.

Response to 5.2: The DEQ does not currently have any monitoring data that demonstrates the riparian condition has been improved. Wording has been changed to reflect the anticipated results of this work.

Comment 5.3: Pg. 95 (Section 8.2.2.2 Riparian Management Plans): YPL supports measures to improve riparian management in the pipeline corridor and currently limits routine vegetation clearing to 20 feet of the 40-foot operating right-of-way for the active pipeline. Clearing is done every three to four years and is necessary to prevent roots from wrapping around the pipe and damaging the coating. The necessity for removing some vegetation along utility corridors needs to be acknowledged and allowed in riparian management plans. No vegetation is cleared from the abandoned pipeline corridor.

Response to 5.3: DEQ agrees that in order for the proper function of utilities and other infrastructure in the watershed, vegetation removal is at times necessary. Wording has been included to acknowledge this and to consider management of both riparian corridor and utilities, etc to the benefit of both.

Comment 5.4: Pg 99 (Section 8.3 Prospect Creek Mainstem-Specific Restoration Strategies): This section references the Phase 1 assessment document (the *Final Prospect Creek Watershed Assessment and Water Quality Restoration Plan* prepared by River Design Group, 2004). YPL submitted extensive comments (ERG 2005) to the DEQ on that document and we herein incorporate those comments by reference and include them as an appendix for inclusion in our formal comment document. In regard to the restoration strategies outlined in the TMDL document as adopted from the Phase I assessment, we reiterate that many of the stream segments targeted for reconstruction are areas where the YPL pipeline has been abandoned in-place. YPL completed a Risk Assessment that concluded that there would be significant benefits to Prospect Creek and related resources by keeping the abandoned pipeline in place and not disturbing the

right-of-way or existing vegetation. Any proposed restoration activities need to recognize these previously evaluated areas and mitigation measures already in place.

Response to 5.4: Since 2005, many changes and additions have been incorporated into subsequent draft documents related to the Prospect Creek watershed and the YPL submitted comments have been noted throughout this process. While the complete list of those comments will not be presented here, and in fact some cases do not apply due to the changes that have occurred since their original submittal, YPLs comments will be included with the master files associated with the Prospect Creek watershed and TMDL development.

To date, YPL has been an active participant in working toward improving the Prospect Creek watershed overall health and condition through the projects they have implemented. They have been recognized for their efforts and collaborated with the Green Mountain Conservation District and the Prospect Creek Watershed Council. It is the hope of DEQ that this relationship continues and information sharing between all appropriate parties is an ever present part of the process when stream restoration projects are proposed and undertaken. This point has been emphasized within paragraph 3 of Section 8.1.

Comment 5.5: Pg 100 (Section 8.3.3 Stream Channel Shaping Reconstruction): The second paragraph describes benefits to utility infrastructure in terms of maintenance costs savings as a result of potential stream channel shaping/reconstruction. To that end, YPL has rerouted approximately 10 miles of pipeline away from Prospect Creek since 1997 this has already significantly reduced YPL maintenance concerns and costs. The majority of the active pipeline route is now within the Highway 471 right-of-way, on the side of the road opposite Prospect Creek where impacts to the pipeline from stream flooding and erosion are less of a concern. YPL will continue to monitor the pipeline route, including weekly inspection flights and annual field inspections as part of standard operating procedures. We also conduct monitoring of abandoned pipeline segments on USFS lands required as part of YPL's Special Use Permit.

Response to 5.5: DEQ appreciates the work YPL has done on the reroutes and maintenance of the pipeline in the Prospect Creek watershed. We hope your efforts continue well into the future and that you maintain the good working relationship with the local watershed group and Green Mountain Conservation District.

Comment 5.6: There is a discussion on culvert replacement needs to Cooper Gulch. Please address the recent improvements that were made to the Chipmunk and Cooper Gulch crossings. These culverts now meet 100-year flow events and facilitate fish passage. You say that “all stream crossing need to be replaced” – that is not true anymore.

Response to 5.6: Spokane and Chipmunk road crossing improvements have been removed from the list of restoration needs. These improvements are described in Section 8.2.1.

Comment 5.7: Page 106, 8.4.5, and Page 107, ¶ 4&5 There is a discussion on restoring the natural channel design in upper mainstem Crow Creek. Please address the recent improvements that were made for approximately 1000 feet in this section of Crow Creek.

Response to 5.7: The Crow Creek restoration project is described in Section 8.2.1 and has included within discussion of 8.4.5.

6. Comments to Section 9.0 Water Quality and Habitat Monitoring Plan

Comment 6.1: Pg.114 (Section 9.5 Additional Monitoring and Assessment): The first bulleted item on this page discusses monitoring of the YPL pipeline corridor to ensure stream stability at existing, re-route, and abandonment locations. It would seem this type of monitoring would be a priority for other utilities corridors as well. And as stated above, YPL currently monitors the pipeline route, including weekly inspection flights and annual field inspections as part of standard operating procedures. There is additional monitoring of abandoned pipeline segments on USFS lands required as part of YPL's Special Use Permit.

Response to 6.1: The wording has been changed to include monitoring in all utility corridors that influence stream channel or riparian corridor health and function.

7. Comments to Appendix C Riparian Canopy Assessment

Comment 7.1: Approximately 70% of the sites selected for the 2005 Densimeter Field Study (Table C-2, pg. C-15) were at sites where YPL is listed as a landuse (based on the information in Table C-1). It should come as no surprise that canopy density is lower if field data is primarily collected at locations where vegetation is removed for safety and maintenance purposes. The actual locations of the canopy density assessments are not provided so we are unable to critically review the data but we reiterate our earlier comment (Comment 2.3) that some consideration should be given in the TMDL to acknowledge that canopy cover target levels will likely be unachievable along active utility corridors.

Response to 7.1: The DEQ recognizes that it may not always be feasible to completely restore riparian corridors to the desired condition when in the presence of utilities or other infrastructure. We must still attempt to investigate all potential alternatives that will result in the best condition allowable, given the specific considerations for a given site.

The sites used for the densimeter study were chosen based on predominant vegetation, active channel width, and accessibility. Utility corridors throughout the Prospect Creek watershed are one of the major anthropogenic influences affecting stream and riparian condition and therefore it should also come as no surprise that utility corridors will be encountered at many of the sampling sites. From memory, most of the sites encountered where the densimeter measurements were taken were not at locations under the direct observed influence of the utility corridors, however utility corridors may have been in close proximity to the sampling site.

While YPL is listed as a landuse in 70% of the densiometer sampling sites according to the aerial assessment information in Table C-1, only 38% of the sites list YPL as Land Use 1. Land Use 1 is the predominant Land Use influence, followed by additional Land Uses if noted, and as such YPL may not have had an overwhelming presence in some of those sites although it was identified as existing within the reach.

8. Comments to Appendix H Culvert Analysis

Comment 8.1: Pages H-8-10, several references – We disagree that an average annual load from culvert failure should be determined and applied. Sediment contribution from culvert failure is a legitimate source of sediment. However, the potential sediment risk from culvert failure analysis portrays sediment AT RISK rather than a known annual contribution. Culvert failures are episodic events and should not be accounted for in the same way as actual annual sediment contributions from sediment sources such as road surface erosion and highway sanding. Many culverts out there are undersized and have been in place for years and years and yet have never failed. The culvert failure analysis is better used to help prioritize culverts for removal and/or upgrade. A similar analysis was used in the Upper Lolo TMDL as a prioritization mechanism, but was, appropriately, not used to determine an annual load from culvert failures.

Response to 8.1: EPA sediment TMDL development guidance for source assessment states that the basic source assessment procedure includes compiling an inventory of all sources of sediment to the waterbody and using one or more methods to determine the relative magnitude of source loading, focusing on the primary and controllable sources of loading (EPA 1999, page 5-1). Regulations allow that loadings “...may range from reasonably accurate estimates to gross allotments, depending on the availability of data and appropriate techniques for predicting the loading,” (Water quality planning and management, 40 CFR § 130.2(I)). The analysis in this document uses a gross estimate approach to equate the load at risk to a yearly load making estimates of failure rate and failure amount when a given storm event exceeds a basic culvert design criteria. We acknowledge that the average yearly culvert failure loading values are gross estimates and can also be viewed as a load at risk. Using a load at risk approach would make it difficult to compare the relative contribution of culvert failures to other sediment sources and would make development of daily allowable loads a difficult task.

The vast majority of sediment loading, whether from roads or hillslope erosion, is derived and delivered to streams during episodic events. Models used for hillslope and road erosion loading use time step periods with loading, averaged over the time step period, weighted more heavily for some years than others. In fact, it is likely that many roads included within the source assessment would not contribute sediment loading to the stream during a typical year, but only deliver a sediment load during episodic events. This time step approach is consistent with EPA guidance (EPA 1999). Furthermore, the modeling and inclusion of average yearly loads from episodic events such as mass wasting is routinely incorporated into sediment TMDLs developed by or approved by EPA, including the Grave Creek TMDL in Montana, the Lower Clark Fork River Subasin TMDLs in Idaho, and the Garcia River sediment TMDL developed by EPA in California.

The DEQ is constantly improving TMDL development methods, including source assessments, and will look at improving their methods for addressing source loading from culverts to ensure that the basic goals of TMDL source assessments, defined at the very beginning of this response to comments, are satisfied.

9. General Comments Regarding the Document as a Whole

Comment 9.1: I am writing in regards to proposed regulations/changes regarding sediment discharge in the Prospect creek drainage near Thompson Falls MT. I support the full minimization of sediment discharge from this creek. We are currently in the process of degrading all of watershed areas and it is time stop. Do not let this fantastic creek be degraded any more that it already has been.

Comment 9.2: Thanks for the opportunity to review the Draft Prospect Creek Watershed Sediment TMDL on the behalf of the Forest Management Program within the Montana Department of Natural Resources and Conservation (DNRC) Trust Land Management Division. In general, I found this TMDL much more concise and easy to follow than several of the more cumbersome TMDL documents that I have reviewed in the past. The document is clear and well written. The authors should be commended on their effort.

Although the amount of State Trust Lands administered by DNRC that is located within the TMDL planning area is limited to a single section in Dry Creek, the allocations and restoration strategies outlined in the plan still have the potential to effect the management of that parcel. The restoration strategies presented in the plan appear to rely primarily on compliance with Montana Forestry BMPs and the Montana Streamside Management Zone (SMZ) Law to achieve sediment and habitat related water quality goals. We have concluded that DNRC current forest management practices and standard operating procedures are compatible with and complement the strategies outlined in the draft TMDL. For example, DNRC is fully committed to effective BMP application while conducting forest management activities including the inventory and upgrade of existing roads and stream crossings constructed prior to BMP development. Not only must DNRC comply with the SMZ law, but we are also mandated to comply with BMPs as necessary to avoid unacceptable adverse impact under ARM 36.11.421. DNRC also utilizes extended SMZ widths on sites with high erosion risk or on streams supporting cold-water fish species under ARM 36.11.425.

I do not see any issues or concerns with DNRC being able to comply with the goals, objective and strategies outlined in the plan. Once again I would like to thank you for the opportunity to comment.

