

Applegate Subbasin

Total Maximum Daily Load (TMDL)
& Water Quality Management Plan (WQMP)

Response to Public Comment

*Prepared by:
Oregon Department of Environmental Quality
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Introduction

This Response to Public Comments document addresses comments and questions received regarding the Draft Applegate Subbasin Total Maximum Daily Load (TMDL) and Water Quality Management Plan (WQMP) dated August 5, 2003.

List of Commentors

The following individuals and organizations provided comments on the Draft Applegate Subbasin TMDL/WQMP during the Public Comment Period which was held from August 5 through October 6, 2003. On August 20, 2003 a public meeting was held in Ruch, OR. The meeting included an informational discussion and formal public hearing. All comments received by DEQ during the public comment period are listed below (comments either oral, FAXED, mailed, or e-mailed).

Code	Commentors	Date Received	Format of Comments	Format Available
JOCO	Michael Snider, Josephine County	9/29/03	Written	Hardcopy
ODF	Jim Paul Hydrologist Forest Practices Section	8/14/03	E-mail	Digital
EPA	Alan Henning EPA Region 10	9/30/03	Written	Hardcopy
ODA	Paul Measeles ODA hydrologist	8/05/03	Written	Hardcopy

All comments received during the public comment period have been reviewed by DEQ and addressed in this document. Some of the comments received overlap and can be addressed with a single answer. Comments which require modifications to the TMDL or WQMP are noted and the changes are noted. A copy of this responsiveness summary has been submitted to EPA as part of the TMDL-WQMP packet.

NOTE: As with any analysis there is uncertainty in the Applegate Subbasin TMDL analysis. The acknowledgement of such uncertainty should not be used as an excuse to delay the implementation of much needed improvements in the watershed. Local, state, and federal agencies responsible for implementing the allocations in the TMDL are required to implement the TMDL with the understanding that they may be required to modify their programs over time as new monitoring information becomes available. An adaptive management approach has been adopted by DEQ as the means to make these modifications while the designated management authorities are moving forward with actions that will improve water quality in the Applegate Subbasin.

General Comments

- 1.1 Comments, JOCO: Comment from Michael Snider, Planning Director. On behalf of the Board of Commissioners, I hereby request a statement of the legal authority that requires Josephine County to act as a designated management agency in implementing the plans.

Response: As defined in Oregon Administrative Rule OAR 340-042-0030 (2) “Designated Management Agency (DMA)’ means a federal, state or local governmental agency that has legal authority over a sector or source contributing pollutants, and is identified as such by the Department of Environmental Quality in a TMDL.” In the Applegate Subbasin TMDL as well as in the Lower Sucker Creek TMDL, Josephine County is recognized by DEQ as having the authority to regulate land use and protect riparian areas for those lands under its jurisdiction and as such is recognized as a DMA. DEQ does not intend that Josephine County exert authority in areas beyond its jurisdiction – specifically in the regulation of forest and agricultural practices and activities. We also appreciate the difficulty in distinguishing these authorities in rural areas and are willing to assist the county in efforts to develop a TMDL implementation plan.

- 1.2 Comments, ODA: ODAs only substantive comments are regarding the use of V* as a measure of sediment impacts to Beaver Creek and other streams in the sub-basin. The factor V* in hydrology is most commonly used to designate shear velocity. Page 70 of the TMDL discusses using V* as a measure of pool filling with fine sediment, and cites literature by Lisle and Hilton and an AWRA bulletin. These are not included in the references for the TMDL. This section needs further documentation if DEQ is recommending that pool infilling be used in the future for measuring sediment impacts to streams.

Response: In the Applegate Subbasin TMDL V* is recommended as an indicator of trends in sediment yields. As stated in the final TMDL: “It is recommended that in addition to monitoring the embeddedness target, monitoring continues to incorporate V* and macroinvertebrates as trend indicators for sedimentation in the Beaver Creek Analytical Watershed.” This recommendation is supported by current literature. Studies (Lisle and Hilton 1992, Hilton and Lisle 1993), indicate a strong correlation between V* and the sediment budgets calculated for a watershed and support the use of V* as an index of the supply of mobile sediment in a stream channel. The following V* references have been added to the final TMDL:

Lisle, T.E., and S. Hilton, AWRA Water Resources Bulletin, Vol.28, No. 2, pp. 371-383, April, 1992.

Hilton S., and T.E. Lisle, USDA Forest Service Res. Pacific Southwest Research Station, Box 245, Berkeley CA 94701. Note PSW-RN-414-WEB. 1993

- 1.3 Comments, ODF: It looks like the same text was used for the non-federal forestry portion of the WQMP that was used in the draft North Coast TMDL WQMP. Please use the attached template in the final for submission to EPA

Response: Template language has been included in the final Applegate Subbasin TMDL WQMP: page 22 under the nonpoint source section and in Appendix A “Oregon Department of Forestry, Implementation Plan for Non-Federal Forest lands.

1.4 Comments, EPA: Executive Summary Section: Approximately 90 square miles of the subbasin (mostly within the Rogue River National Forest) are within the State of California and are outside the jurisdiction of this TMDL. Waters flowing from California into Oregon must meet the Oregon’s water quality standards. Although the first page of the Executive Summary indicates there are no 303(d) listed streams in the Rogue Basin in California, there is no discussion regarding California’s standards, i.e., criteria, being equal to or more stringent than Oregon’s. If California standards for the pollutants addressed in the TMDL, are equal to or more stringent than Oregon’s standards, combined with the absence of 303(d) listings in the California section of the Rogue Basin, one could conclude, with much stronger supporting evidence, that California waters are not contribution to water quality violations in Oregon. However, if the California water quality standards are less stringent, it is possible that water from streams in California do contribute to water quality standard violations in Oregon even though the waters are not 303(d) listed in California. Recommendation from EPA: The TMDL report should include a comparison of the two states’ standards and provide greater support that waters from California are not contributing to water quality standards violations in Oregon waters.

Response: There are approximately 90 square miles in the headwaters section of the Applegate Subbasin located within the State of California. Of those lands over 87% (79 square miles) are part of the Rogue/Siskiyou National Forest. The two main streams originating in California and draining into the Applegate Subbasin are the Applegate to the West and Elliot Creek to the East. Both tributaries drain into Applegate Lake at the Oregon state line. There is very limited temperature data available for this area. Data available from the USFS indicates that State of Oregon temperature criteria for rearing (64°F) is being met on Butte Fork of the Applegate River and Upper Elliot Creek, although it is not being met on the lower section of Elliot Creek (Table below). However, in applying Oregon temperature standards, because there are exceedances of the criteria downstream of Applegate Lake the standard that applies to all these lands is “no measurable surface water temperature increase resulting from anthropogenic activities is allowed.” This means that the USFS temperature target for these California lands is system potential riparian conditions. Management of these lands, whether in Oregon or California is in accordance with the Northwest Forest Plan and Aquatic Conservation Strategy. Adaptive management will be used to ensure that the Northwest Forest Plan is sufficient to meet the TMDL over time. This discussion along with the table below has been added to the final TMDL document.

Site Description	Location	Data Source	Data Description	Listing Status
Butte Fork of Applegate River	T48N, R12W,S36	USFS	1993, 1994 with 0 days exceeding temperature standard of 64°F. Stream in California	Did not meet listing criteria
Elliot Creek (ELL1)	T48N, R10W, S26	USFS	Maximum 7 day Average: 1994 67.3°F, 1995 58.8°F, 1997, 62.0°F; 1998, 61.8°F. Stream in California	Does not appear to meet listing criteria
Elliot Creek (ELL2)	T48N, R11W, S17	USFS	Maximum 7 day Average: 1995, 63.0°F; 1997, 66.4°F; 1998, 66.4°F; 1999, 62.9°F; 2001, 68.2°F. Stream in California	Appears to meet listing criteria

1.5 Comments, EPA: 2, Page 8: The last sentence in the paragraph under “Water Quality Impairments” indicates that 23 stream reaches are addressed in the TMDL. Because some reaches are listed for multiple parameters, it appears that only 16 reaches and 23 parameters are addressed in the TMDL package. Recommendation: The number of reaches being addressed in the TMDL should be

reviewed and an analytical restatement of water quality standards in surrogate form. While this is a very important first step -, it is nonetheless just a first step and is not sufficient to constitute a TMDL.

Response: On page 8 of the TMDL the statement indicating the number of TMDLS covered in the Applegate Subbasin TMDL has been modified to read, “A total of eighteen 303(d) listings are addressed in this TMDL: temperature (16 listings), Sedimentation (1 listing), and Biocriteria (1 listing). Habitat (2 listings), Flow (3 listings). NOTE: Habitat (2 listings), Flow (3 listings) on the 1998 303(d) list have been delisted on the 2002 list. Table 3 below shows the stream reaches addressed in this TMDL together with the water quality criterion that is exceeded, and number of stream miles on the 303(d) list.”

- 1.6 Comments, EPA: 3. Page 33: Natural events that may impact riparian vegetation are described beginning on page 33 in 5. *Natural Sources*. Included as one of these events is “blowdown”. Blowdown generally occurs naturally, however, there are occasions when blowdown is a direct consequence of clear cutting on adjacent lands. Recommendation: If the occurrence of anthropogenically caused blowdowns impact enough of the TMDL landscape to demonstrate a contribution to the temperature loading, blowdown should be factored into the nonpoint source pollution loading capacity in the TMDL

Response: An increased incidence of blowdowns caused by adjacent timber management practices would factor into the load allocation for the DMA with jurisdiction. Section 5 Natural Sources has been modified to make it very clear that what is being discussed are non-anthropogenic influenced events that may impact the riparian area and percent effective shade on a waterway. The sentence now reads, “These events include floods, drought, disease, insect damage and naturally occurring fires, windthrow and blowdown in riparian areas.”

- 1.7 Comments, EPA: 4. Page 37-40: Although surrogate measures may be used to establish TMDLs, load and waste load allocations should be defined as a unit measure per time. Solar loading allocations, expressed in BTUs/square ft./day and percent effective shade targets are provided for categories of nonpoint sources for all streams. See Table 20. However, a load allocation for the Applegate Dam and waste load allocations for the two point sources, have not been expressed, i.e., BTUs/square ft./day. Recommendation: Waste load allocations for the point sources and a load allocation for the dam should be provided as a unit measure per time.

Response: The recommended changes have been incorporated into the final version of the TMDL/WQMP. A numeric load allocation for the Applegate Dam, as well as numeric flow-based waste load allocations for NPDES permitted point sources have been included consistent with the approach taken in the Western Hood Subbasin TMDL.

- 1.8 Comments, EPA: Page 39-40: In Table 16 on the top of page 38, the Applegate Dam is assigned a load allocation. However, Table 18 on page 40 seems to indicate the Applegate Dam is a point source and assigned a waste load allocation. Recommendation: The TMDL should be modified to be consistent with DEQ’s approach in addressing dams as presented in it’s approved Western Hood Subbasin TMDL.

Response: TMDL has been modified to include a numeric load allocation for the Applegate Dam consistent with the approach taken in the Western Hood Subbasin TMDL.

- 1.9 Comments, EPA: Sediment and Biological Criteria TMDLs. 6. Page 76 and 86 Sediment and Biological Criteria Margins of Safety: The last paragraphs on pages 76 and 86 indicate that the margins of safety for sediment and biological criteria, respectively, are both implicit and explicit, and that they are based on the analysis of the watershed in terms of 1) current vegetation, 2) road densities, and 3) channel crossings. The paragraphs do not explain how these measures represent margins of safety. Recommendation: The MOS discussions should include a more comprehensive explanation of how the surrogate measures represent margins of safety..

Response: Under TMDL *Margin of Safety – CWA §303(d)(1)* for both sedimentation and biological criteria an explanation has been added to further elaborate on the implicit margins of safety employed as a part of TMDL development.

- 1.10 Comments, EPA: Inclusion of an implementation plan as part of a TMDL is valuable and progressive. After all, the purpose of Section 303(d) of the Clean Water Act is restoration of water bodies not meeting water quality standards. Listing and analysis are preliminary steps. The implementation plan is the key to getting measures on the ground where needed in order to meet specific targets and goals laid out in the TMDL. We are pleased that development of WQMPs is an integral part of Oregon's TMDL process. We recognize that while the Water Quality Management Plan is being submitted by DEQ as part of the TMDL, the Plan was developed by groups and agencies who have responsibility for the various components of the Plan (designated management agencies). Therefore EPA's comments on this Plan are directed toward the applicable designated management agencies (DMAs). In the Oregon Plan for Salmon and Watersheds, communities and government agencies at all levels have made commitments to conserve and restore crucial elements of natural systems that support fish, wildlife and people. This Water Quality Management Plan includes some actions which are fruition of commitments made in the Oregon Plan. In particular, the Applegate Basin groups have been innovative and progressive in developing methods to meet requirements of both CWA and ESA. EPA is very supportive of this approach, particularly regarding the protection and restoration of key watershed functions such as hydrology, sediment dynamics and habitat forming processes. We agree that matrix tools are likely to meet TMDL targets. At present, the Applegate Subbasin WQMP is a general framework, identifying DMAs and programs, and laying out a pathway for more detailed planning and tracking. As such, it has only general, conceptual ties to the TMDL load allocations. We understand that this document is a first iteration of a compilation of more detailed implementation plans. Because the document is general and conceptual, and because the programs and agencies run on separate tracks, it is not clear what the unifying mechanism is that would consistently look at the watershed as a whole, piecing together the eight DMA implementation plans. We believe that a coordinated approach, where data and technical information are shared among DMAs, would be more effective and efficient than keeping each DMA plan on a separate track and process. The adaptive management discussion as it is here, delivers a somewhat sketchy and confusing scenario of gathering additional assessment data, research, judging effectiveness, and adjusting targets. It is stated that plan implementation is automatic compliance with the TMDL. Part of the work of adaptive management is determining whether or not the planned implementation is achieving desired results and if not, whether adjustments are needed on the ground. How will that part of the work be done?

Response to 1.10: The Applegate TMDL states that DMAs must submit their implementation plans within 12 months following the acceptance of the TMDL by EPA. At that time DEQ will review the plans to be certain that they contain the required elements consistent with OAR 340-042-0080. DEQ will also review the plans to ensure that the management measures specified are sufficient to meet the TMDL load allocations. Updates from the DMAs are required on a yearly basis and at that time the progress of implementation will be reviewed. On a 5 year basis, subject to available resources, DEQ will conduct water quality monitoring of the watersheds to determine the effectiveness of the measures that have been implemented. If it is found that an implementation plan is inadequate to achieve the load allocations set forth in the TMDL, the DMA may be required to revise the plan as needed OAR 340-042-0080(3)(b), or DEQ may need

to revise the loading capacity and or allocations to accommodate changed needs or new information (OAR 340-042-0040(7)). DEQ is committed to providing assistance to DMAs to aid in the development of implementation plans. In addition to technical assistance DEQ has committed financial assistance to the process of Implementation Plan development as well. At the time of this writing the Applegate River Watershed Council has been chosen to receive a 319 grant to assist Jackson and Josephine Counties in the development of implementation plans.

- 1.11 Comments, EPA: Josephine County and Jackson County - language is hypothetical (*may* have authority) - do they have authority or don't they?.

Response 1.11: The WQMP has been modified to clarify the role of Jackson and Josephine Counties. The section now reads:

Urban/Nonresource land uses are covered in the Implementation Plans for Jackson and Josephine Counties to the extent of their authority. Contact Josephine County Planning (541) 474-5421 or Jackson County (541) 774-6007 for more information. These land uses include:

- All nonagricultural, nonforestry-related land uses including transportation uses (road, bridge, and ditch maintenance and construction practices)
- Sewer and septic systems as related to human habitation
- Designing and siting of housing/home, commercial, and industrial sites in urban and rural areas
- Golf Courses
- Other land uses as applicable to the TMDL

- 1.12 Comments, EPA: 2. ODA, 1010 Our comments on Inland Rogue: The Local Advisory Committee is to be congratulated. The Draft Inland Rogue Agricultural Water Quality Management Area Plan is well conceived and written. The plan explains the connection between this effort and 303(d) listed waters and TMDLs. Water quality parameters are appropriately presented, including descriptions of how agricultural activities can and do impact them. Relationships to water quantity are acknowledged. Management problems and possible solutions are presented in tables that also connect these activities to the applicable water quality parameters. We are very supportive of the committee's intent to base the plan on scientifically defensible data, to protect water quality in agricultural settings, and to suit descriptions and management to the unique character of specific sites. While this plan is quite good, there is a significant gap that should be pointed out. The Inland Rogue plan and rules fail to address the Coastal Zone Act Reauthorization Amendments, Section 6217 management measures. Because the Rogue Basin is within Oregon's Coastal Nonpoint Pollution Control Program area, there is the expectation that 1010 plans and rules are the mechanism of implementing agricultural management measures as described in Oregon's program submitted under CZARA Section 6217 (see attachment). The program was approved subject to conditions, one of which was to see if 1010 plans would indeed contain the management measures. The management measures missing from the Inland Rogue plan and rules are those for pesticide management. The others are at least partially accounted for.

Response: *From Ray Jaindl, Assistant Administrator, Natural Resources Division, Oregon Department of Agriculture.* ODA, DEQ, and lead EPA workers for the Coastal Zone Program met in October 2002 to discuss the state's efforts in regard to this program. One of the issues raised was how the state addresses the pesticide measures identified in the Coastal Zone Management Measures. Dale Mitchell, assistant administrator for the ODA pesticide division, provided an overview of the state's pesticide program which includes pesticide user licensing, pesticide registration and pesticide compliance monitoring. This is all under a cooperative

agreement with EPA region 10. This agreement is quite in depth and lays out the responsibilities of the state and EPA to achieve EPA pesticide responsibilities in Oregon. A three page summary of this program is attached. This program is the state's means to address the Coastal Zone management measures for pesticide and no additional measures are developed under the SB 1010 authorities. Feel free to forward the attachment to the contact person at EPA and suggest they talk to Teena Reichgott, Nonpoint source coordinator, EPA Region 10 or Don Yon, Oregon DEQ. Both of these individuals were at the meeting in October 2002 where we indicated we will not be duplicating work of other divisions. We suggested the EPA coastal program staff should contact the EPA pesticide program to get an understanding of the extent of the work that is going on.

- 1.16 **Comment: EPA: 3.** Page 6 contains the sentence “If a nonpoint source that is covered by the TMDLs complies with its finalized Implementation Plan or applicable forest practice rules, it will be considered in compliance with the TMDL.” Since studies show that the forest practice rules do not meet TMDL shade targets, it doesn’t make sense to say they are considered to be in compliance with the TMDL. We believe that the finalized implementation plans should closely comport with the specific targets in the TMDL. The forest practice rules presently do not have that level of specificity. Indeed there is data showing that the present forest practice rules do not put forest lands on a trajectory to meet TMDL targets or water quality standards. Therefore, we recommend striking the words “or applicable forest practice rules” from this sentence unless ODF and the forest landowners have agreed to basin specific rules or some other approach that more closely aligns with the TMDL targets. This is a particular concern in view of the intention stated in the next paragraph to adjust the TMDL or its interim targets and the associated water quality standards once DEQ has determined that all feasible management practices have reached maximum expected effectiveness. If “all feasible management practices” means the current forest practice rules as carried out at present, then we would be doing a disservice to both the resources we are responsible for protecting and the public at large. 4. Page 7, third bullet - “Where implementation of the Implementation Plans or effectiveness of management techniques is found to be inadequate, DEQ expects management agencies to revise the components of their Implementation Plan to address these deficiencies.” What assurance does DEQ have that this expectation will come to fruition? Are there agreements and processes by which the determinations will be made and the DMAs will revise?

Response 1.16: The statement provided on page 6 of the WQMP, “or applicable forest practice rules” has been eliminated. There is no reason to name the Forest Practices Act in this sentence. The following paragraph has been modified in the WQMP to state how and when DEQ will determine the effectiveness of implementation plans:

In employing an adaptive management approach to the TMDLs and the WQMP, DEQ has the following expectations and intentions:

- Subject to available resources, on a five-year basis, DEQ intends to review the progress of the TMDLs and the WQMP.
- In conducting this review, DEQ will evaluate the progress towards achieving the TMDLs (and water quality standards) and the success of implementing the WQMP.
- DEQ expects that each DMA will also monitor and document its progress in implementing the provisions of its Implementation Plan. This information will be provided to DEQ for its use in reviewing the TMDL.
- As implementation of the WQMP and the associated Implementation Plans proceeds, DEQ expects that DMAs will develop benchmarks for attainment of TMDL surrogates, which can then be used to measure progress.

- Where implementation of the Implementation Plans or effectiveness of management techniques is found to be inadequate, DEQ expects management agencies to revise the components of their Implementation Plan to address these deficiencies.
- If DEQ determines that all appropriate measures are being taken by the DMAs, and water quality standards will still not be met, DEQ may reopen the TMDL and revise as needed. DEQ would also consider reopening the TMDL should new information become available indicating that the TMDL or its associated surrogates should be modified.

To address the question, “Where implementation of the Implementation Plans or effectiveness of management techniques is found to be inadequate, DEQ expects management agencies to revise the components of their Implementation Plan to address these deficiencies.” What assurance does DEQ have that this expectation will come to fruition? Are there agreements and processes by which the determinations will be made and the DMAs will revise?” Depending on the DMA, DEQ has specific agreements in place that formally defines the review process. Pages 22-25 of the WQMP have been modified to more closely describe the revision process and the agreements currently in place. See final document for details.

1.17 Comment EPA: It is difficult to differentiate the colors and the land ownership key of Map 2, page 9

Response 1.17: Colors on map 2 have been modified to increase visibility.