# WALLA WALLA SUBBASIN STREAM TEMPERATURE TOTAL MAXIMUM DAILY LOAD & WATER QUALITY MANAGEMENT PLAN

# Response to Public Comment

Prepared by:
***Oregon Department of Environmental Quality***
***August 2005***

DEQ
State of Oregon
Department of
Environmental
Quality

# Walla Walla Subbasin Stream Temperature
# Total Maximum Daily Load
# & Water Quality Management Plan

## Response to Public Comment

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The comments received by DEQ were submitted in written (paper and electronic) form. In the following sections, responses to comment are organized in the order of occurrence in the document, beginning with the more general comments. The original text of the comments is included here as Appendix A. An asterisk (*) indicates that the revised document has been modified based on a comment. "The Department" means the Oregon Department of Environmental Quality, unless otherwise stated.

# Introduction

This Response to Public Comment addresses the draft document entitled: ***Walla Walla Subbasin Stream Temperature Total Maximum Daily Load & Water Quality Management Plan***. The Draft Walla Walla Subbasin TMDL and WQMP reviewed during the public comment period represents several years of data collection, data analysis, public participation and document development.

All comments have been considered by the Oregon Department of Environmental Quality (DEQ) and, where appropriate, have been addressed in the final document that has been submitted to the US Environmental Protection Agency (USEPA) along with a copy of this response. USEPA will then either approve or disapprove the TMDL. Not all comments resulted in modifications to the document. Some comments are competing and represent different views of the Clean Water Act, State authority, the strength of the scientific knowledge, and the ability of designated management agencies to implement the TMDL.

The comments received generally led to changes that improved the TMDL and WQMP. DEQ appreciates the time and effort of the reviewers.

# Background

The public comment period for the proposed Walla Walla Subbasin TMDL & WQMP opened on May 2, 2005. The due date for comments was extended from June 30 to July 14, 2005 based on reviewer request. One public information open house was held on May 19 and a formal public hearing was held on June 21, both at the Community Building in the city of Milton-Freewater, OR.

The public notice for the public comment period was sent to interested parties in Oregon and Washington with concerted effort within the Walla Walla Subbasin. DEQ maintains lists of interested parties and the Walla Walla Basin Watershed Council provided an extensive email list as well. Direct mailings were sent to local officials and the notice was placed on DEQ's website. The public notice was advertised through local newspapers. Further outreach was conducted through numerous informational forums and public hearings throughout TMDL development. The Walla Walla Basin Watershed Council, in partnership with DEQ, provided an ongoing discussion venue and outreach.

The TMDL & WQMP document and technical appendix were available for downloading from DEQ's website throughout the comment period. Hard copies and CDs of the documents were also available for viewing at the County Courthouse, Watershed Council, Milton-Freewater public library, the Confederated Tribes of the Umatilla Indian Reservation, Department of Natural Resources and at DEQ's Offices in Pendleton and Portland. Copies of the document were hand delivered to designated management agencies (DMA)and other land/water authorities: US Forest Service (USFS), US Bureau of Land Management (BLM), Oregon Department of Forestry (ODF), Oregon Department of Agriculture (ODA), Oregon Water Resources Department (WRD), County Commissioners, the US Army Corps of Engineers (USACE) and the Milton-Freewater Water Control District. Copies of the documents were also provided to those individuals who requested copies.

**List of Reviewers Issuing Public Comment**

| Code | Comments Received From (and length of comment text) | Date Received | Media |
|---|---|---|---|
| EPA | US Environmental Protection Agency (3 pages) | 06-27-05 | Mail |
| ODA | Oregon Department of Agriculture (2 pages) | 07-06-05 | Mail |
| NWEA & NEDC | Northwest Environmental Advocates & Northwest Environmental Defense Center (15 pages) | 07-12-05 | Mail |
| NCS | Native Creek Society | 07-14-05 | E-Mail |
| USFS | Umatilla National Forest (3 pages) | 07-14-05 | E-Mail |

## Comment & Response – General

**(G-1) EPA Comment – EPA wishes to acknowledge the excellent work in developing this TMDL… and the effort put into coordinating with the Washington Department of Ecology so the entire subbasin was considered in the TMDL. …This TMDL should serve not only to guide restoration in the Walla Walla Subbasin but also as a model for future TMDL development.**

Response – DEQ acknowledges EPA's helpful participation throughout TMDL development.

**(G-2) ODA Comment – In general, we found that this proposed TMDL is reasonable in its scope and approach to setting pollutant loads for temperature.**

Response – Several comments directly address agricultural implementation of the TMDL. DEQ will forward these comments in this response report, for ODA to consider in the next review of the TMDL implementation plan for agriculture.

**(G-3) USFS Comment – The UNF supports the general concept of natural thermal potential replacing biologically based criteria and also recognizes the technical challenges in making these determinations computationally. The Draft recognizes that system potential vegetation alone, for example, will not resolve water quality impairment. Other sources (groundwater, channel processes, flows) are beginning to be recognized, evaluated, and accounted for; however, true system potential is only partially understood. The adaptive management approach, also used by the Forest Service, is a logical tool to help address these uncertainties.**

**Minor editorial comments on word usage and some typographical errors were noted on pages: iii-v, and 2-9 should refer to Appendix A, 3.3.3.**

**Lastly, the UNF recognizes and supports the collaborative approach taken in development of the Walla Walla TMDL, specifically in working on complex bi-state water issues, partnering with the Walla Walla watershed council, and collaboration with other agencies, Tribes, and organizations, including the UNF. We recommend that DEQ continue active support for using the collaborative approach in the implementation and monitoring phase of the TMDL process.**

Response* – DEQ acknowledges this input and will also address the minor/typographic suggestions noted by the USFS in a paper copy of the document.

**(G-4) NCS Comment – We appreciate the work you and others have done in preparing the draft Walla Walla Subbasin Stream Temperature Total Maximum Daily Load and Water Quality Management Plan, including Appendix A to the plan.**

**You note that the highest temperatures are between late July and early to mid August and therefore you focus on August afternoon temperatures. This is appropriate.**

Response – DEQ acknowledges this input and appreciates the reviewer's extensive knowledge of the basin's water resources history.

**(G-5) NCS Comment – Being a scientific document, we believe all relevant facts should be set out. In this context, the Plan should note the importance of the cold ground water inflows through springs and tributary and distributary streams which cool the warmer surface water in the mainstem. It should also be noted in the Plan that the diversion of more water down the Tum-a- Lum Section (now known as the mainstem Walla Walla River) from the Little Walla Walla River actually resulted in an increase in temperature of the water in the Walla Walla River at the Oregon-Washington Stateline. While this surprised many people, the rational explanation is that the cold ground water from the substantial springs that arise in Oregon in the neighborhood of Tum-a-Lum bridge were overwhelmed by the diverted water being heated**

**flowing over the formerly dry rocky riverbed upstream of Tum-a- Lum bridge. As you note in Appendix A at 3.5, page 80 there is a "critical need for informed decision making" which can only be made with all the facts. This fact could be inserted at that point. Also it should be noted in the Plan that the diversion of more water down the mainstem or less down the Little Walla Walla has resulted in some streams downstream in the Little Walla Walla system being dried up (like the West Little Walla Walla) during two to three month periods when they were naturally perennial streams.**

Response* – Text such as that below (in quotation marks) will be inserted at the end of 'Addressing Stream flow' in Section b of the main document and paraphrased in Appendix A on page 80 at the end of Section 3.5. In addition the discussion relating flow to channel morphology – the last paragraph of page 1-5 of the main document draft – will be included or referenced in the appendix as well.

> "The relationships between temperature and flow, and mainstem versus distributary flow are not simple. In addition to the difficulty in determining natural flow discussed in previous paragraphs in this section, there are other complicating issues:
>
> - During the warms season, increased mainstem flow at Milton-Freewater leads to locally increased water temperature downstream – below Tumalum Bridge and below State-Line in areas where cool ground water flow previously dominated the River. This is common in de-watered rivers (e.g., Umatilla River), and is likely one of the instances where there is greater ecological benefit from flow continuity (enabling fish mobility & habitat) than from local cool spots. DEQ notes that increased mainstem flow does provide for overall temperature reduction in the mainstem, as the cool areas are relatively localized, and the high temperature "spikes" would be dramatically reduced by increased river flow.
> - Increasing mainstem flow can cause a decrease in flow elsewhere. Lessening distribution to the Little Walla Walla River, and thereby increasing mainstem flow, decreases ground water recharge via the distributary branches of the Little Walla Walla River. In turn less groundwater is available to supply springs, downstream distributaries and seeps that provide spring branch flow and mainstem cooling at and below the State Line. For instance, the West Fork of the Little Walla Walla River has become intermittent since 2000, most likely due to decreased distribution to the Little Walla Walla River. Optimization of flow in both the mainstem and distributary system is ecologically and hydrologically important."
>
> DEQ believes that future resolution to these issues is hopeful given the level of collaboration apparent in the Walla Walla Subbasin. In order to inform the issues, an array of mainstem flows was modeled for temperature. Simulation of varying flow, channel width/depth and vegetation was also designed to support natural resource managers in determining the type of restoration (flow, channel, vegetation, combinations, different levels) that would provide the greatest benefit. USACE and the Confederated Tribes of the Umatilla Indian Reservation are preparing a flow restoration feasibility study that includes the Levee reach. Substantial attention has been given to flow improvement.

**(G-6) NWEA & NEDC Comment – In our opinion, the TMDL suffers from serious flaws that stem from the Department's inadequate temperature standards.**

Response – DEQ will forward this comment regarding water quality standards (OAR 340-041) and other general input to the appropriate sections within DEQ. This and other comments herein address standards, Oregon's TMDL rule (OAR 340-042) and other established rules. The TMDL is designed to achieve the existing rules as established by the Environmental Quality Commission. DEQ does not envision modifying the draft Walla Walla TMDL document based on challenges to existing rules. However, we remain open to critical input and review these rules periodically.

This response document will address comments that are specific to the draft Walla Walla TMDL and WQMP. While other comments can support change in DEQ policy, the purpose here is to change or affirm the draft Walla Walla TMDL and WQMP.

**(G-7) NWEA & NEDC Comment – The WQMP proves that the State of Oregon does not intend to take actions necessary to protect the beneficial use of salmonids in the streams of this basin. Essentially, the WQMP does not contain sufficient information to determine whether it will be a suitable plan to attain and maintain water quality standards. If DEQ continues to hand off control of implementation plans without much guidance or requirements to the Designated Management Authorities (DMAs), its TMDLs will continue to be ignored. DMAs that choose to follow the minimum requirements of their own administrative rules and therefore do not meet the requirements of the Clean Water Act renders the exercise pointless. To prepare a plan that is no plan at all is a mockery of taxpayer resources. More importantly, it is unlikely that water quality standards will ever be reached in the Walla Walla Subbasin.**

Response – Oregon's TMDL process includes a framework WQMP, issued with the TMDL, which identifies designated management agencies that are required to submit TMDL implementation plans. These are subject to DEQ approval. This process is laid out in OAR 340-042. DEQ is developing an Internal Management Directive (due for completion later in 2005) which spells out DEQ's expectations relative to these requirements. In addition, DEQ will be clarifying its enforcement authority relative to these requirements in the Division 12 rule making process. Also see the response to ***comment #G-6***.

**(G-8) NWEA & NEDC Comment – Specifically, the Oregon Department of Agriculture's SB 1010 Agricultural Water Quality Management Area Plan (AgWQMP) is one of the weakest portions even though it is one of the greatest sources of water quality degradation in the subbasin. In addition, the WQMP does little to address the Milton-Freewater Levee, identified as the major cause of the high temperatures in the river due to the stream widening and loss of riparian vegetation.**

Response – DEQ continues to work with the Oregon Department of Agriculture (ODA) in the TMDL continuous planning process. Senate Bill 1010 provides water pollution control authority to the ODA. It is DEQ's expectation that the Walla Walla Plan will be revised to address TMDL Load Allocation during next Walla Walla Area Plan biennial review. The DEQ/ODA MOA (section III, F) states that "In those circumstances where ODA is present in an area before DEQ, ODA will develop… ODA will evaluate the AWQMAP previously developed plan to assure attainment of DEQ's load allocation for agriculture."

Regarding the Milton-Freewater Levee, additional assessment of feasible improvements is clearly needed, and this is called for in Section H of the WQMP. Currently there are policy prohibitions (USACE, Milton-Freewater Water Control District) and engineering issues regarding channel and vegetation modification within the Levee.

**(G-9) NWEA & NEDC Comment – In the end, a TMDL and WQMP should contain a nearly flawless sequence of analytical steps directed at restoring water quality, beginning with a comprehensive assessment of the condition of the watershed and concluding with an effective implementation plan to reduce pollution inputs to the degree necessary to meet WQS. Unfortunately, the Walla Walla Subbasin TMDL has flaws that the WQMP magnifies. These flaws prevent the attainment of WQS. The water quality standards must either be flawed, or the interpretation of the standards must be flawed, because the DEQ and the EPA never intended them to be applied in such a way that salmonid will not receive adequate protection.**

Response – DEQ does not share this view. In fact, the potential vegetation and channel improvement in the Subbasin are considered by area fish biologists to be the best possible improvement related to salmonid health.

DEQ agrees that the WQMP is not complete without the DMA implementation plans. That is why the latter are slated for submission within 18 months.

## Comment & Response – Part One

**(1-1) EPA Comment – p. iii, 3rd paragraph: For clarity, a sentence should be added which states "future point sources are considered through reserve allocations." This would eliminate concern about limiting new sources.**

Response* – The revision will incorporate this recommendation.

**(1-1b) NWEA & NEDC Comment – Background and Summary: The Background section is flawed because it fails to address the role of stream flows in meeting water quality standards and in providing full protection to beneficial uses. Moreover, no discussion of the fundamental reason why a TMDL is being done and why it should be implemented fully – namely, the specific salmonid species and their precarious status – the TMDL fails as a public information document. Given the State's disinterest in controlling nonpoint sources, demanding restoration of damage caused by Army Corps of Engineers' projects, and restoring stream flows, the Department relies heavily, if not exclusively, on the goodwill of citizens to implement the TMDL. The document fails to provide a compelling reason for the restoration.**

Response* – The revision will incorporate the recommendation to specify salmon species and status. The role of flow is discussed in the final paragraph of the page III Summary and on page 1-5. DEQ is committed to nonpoint source pollution reduction and TMDL implementation.

Regarding modification of U.S. Army Corps of Engineers (USACE) projects and stream flow, DEQ does see community will as important. Particularly so, because this is the first TMDL iteration. The compelling reason for restoration is protection of beneficial uses of waters of the state, as discussed in the document. Further, the Department has assessed and utilized the best available information in order to develop TMDL allocations that lead to temperature reduction needed to meet the water quality standard and protect salmonids and other cold-water aquatic species (refer to the response to **comment #1-2c**).

**(1-2) EPA Comment – Figure 1-2: This figure needs further explanation. The figure shows that stream temperatures at the mouth will exceed current conditions when the channel and vegetation potential are met, with 100 cfs at Nursery Bridge and tributary enhancements have been completed. This does not seem correct.**

Response* – Currently temperatures are relatively low at the mouth of the Walla Walla. This is because with the existing summer low flow in the Walla Walla River, mixing from comparatively cool Lake Wallula (the receiving Columbia River pool behind McNary Dam) and its associated groundwater decreases the "slack water" lower Walla Walla River temperature. More Walla Walla River flow, as simulated, increases the warm upstream volume, more than offsetting the cooling effect of vegetation and channel restoration. Explanatory text will be added in relation to the figure.

**(1-2b) NWEA & NEDC Comment – Page 1-3: There is no mention of the actual temperatures of the river. Instead, the TMDL presents a simulated graph of a single day in August. The actual temperature data is not discovered until page 101 of the Appendix, a maneuver that seems to hide the actual data from the reader.**

Response* – The August 15 simulation shown in Figure 1-2 does represent the actual temperatures for that day (the model was calibrated to a longitudinal temperature array measured through thermal infrared remote sensing and to instream temperature recorders). This will be clarified in the revised document.

**(1-2c) NWEA & NEDC Comment – Page 1-3: A TMDL must demonstrate that it will achieve WQS, which include, in addition to the criteria, the requirement that designated and existing uses be fully protected. A TMDL is the appropriate document to resolve any failures of the standards. In this TMDL, DEQ fails to do so; instead, it applied its inadequate numeric criteria and exemption language.**

**First, either contrary to its own rules or in conformity with an unwritten understanding of what its rules are actually supposed to mean, DEQ has invented a new methodology – termed the system potential –**

**which gives the best estimate of —minimized“ human disturbance. This methodology is incompatible with the requirements for estimating the natural conditions. —Natural Thermal Potential: means the determination of the thermal profile of a water body using best available methods of analysis and the best available information on the site-potential riparian vegetation, stream geomorphology, stream flows, and other measures to reflect natural conditions.“ OAR 340-041-0002(39) (2003). —Natural Conditions: means conditions or circumstances affecting the physical, chemical, or biological integrity of a water of the state that are not influenced by past or present anthropogenic activities.“ OAR 340-041-0002(38) (2003) (emphasis added).**

**An estimate of natural thermal potential requires the use of natural conditions, which means no human activity in the modeling estimates. Using the system potential with —minimized“ human influences is not the same thing as natural thermal potential. The DEQ never mentions which minimal human disturbances remain in the natural thermal potential estimate, leaving the reader even more confused with the system potential methodology. We are assuming the levee remains in the estimation because Figure 1-2 still includes the levee with the estimated improved vegetation and channel potential. Keeping the levee in the estimate greatly influences the applicable temperature criteria because the levee has a significant impact on the temperature. An accurate natural thermal potential that reflects no human activity would not include the levee. The DEQ‘s inclusion of a —minimal“ human influence, contradicts the requirements of the water quality standards. It is a mistake to include the levee because natural conditions should not include a levee that runs over five miles. The higher natural thermal potential temperature can only be used to supersede the numeric criteria if the temperature is warmer without any human activity.**

**According to DEQ, —”natural conditions‘ are those pollutants that are present in the State‘s waters that are not attributable to anthropogenic activities.“ Letter dated 2/4/04, from Michael Llewelyn, Administrator Water Quality Program, DEQ to Randy Smith, EPA Region 10 Director Office of Water. The EPA also defines natural conditions as, —surface water untouched by human-causing pollution or disturbance … modeling is a mathematical tool used to estimate water quality conditions of a water in absence of human disturbances.“ EPA Region 10, Office of Water and Watersheds, Principles to Consider When Reviewing and Using Natural Condition Provisions, Executive Summary 3 (April 1, 2005) (hereinafter cited as Using Natural Conditions). Neither of these guides state that the natural conditions are estimated with minimal human activity, such as a levee, they are only estimated with zero human activity. According to the standards, natural thermal potential can only be used when the temperatures are higher than the biological criteria under natural conditions without anthropogenic activity in the estimate.**

**Conditions not considered natural for modeling purposes, the EPA states, —water quality that has been or is currently impacted by industry or is substantially impacted by other human activities, e.g., urbanization, agriculture, grazing, timber harvest, etc…permanent anthropogenic landscape changes that may not be feasible to reverse, e.g., dams.“ Using Natural Conditions at 4.**

**Furthermore, there are procedural problems if the DEQ chooses the natural thermal potential. There needs to be a process to depict the rational connection between the facts found and the choices made when choosing the natural thermal potential as the criteria to supersede the numerical criteria. Instead, there is simply a graph and a sentence saying that the numeric criteria are unattainable. The data should show the effects and details of the improved vegetation and channel potential and why the temperature of the river remains warmer than the numeric criteria. Instead, we feel that the DEQ has not accurately estimated the natural thermal potential because these explanations are missing. The choice must also be scientifically defensible. In this case that seems impossible because the DEQ still included in the estimates minimized human activity instead of no human activity. This influences the temperature estimates and can provide incorrect natural thermal potential.**

**It is unclear what the DEQ can and cannot achieve through its modeling. It speaks of —conditions approaching natural,“ without any explanation of the relevance of such a status. TMDL at 1-3. It notes the practical difficulties of determining natural conditions, specifically groundwater and sinuosity, yet claims that the high temperatures derived from the modeling exercise are —natural“ and that they contain an implied margin of safety. It is essential to make the correct choice of a replacement criteria using the natural conditions exemption given that the temperatures will not protect the designated uses.**

Response* – The text of this comment addresses (1) the quality of the natural conditions determination, (2) clarity regarding the components of the natural condition simulation and (3) the appropriateness of the selection of the natural condition criteria as the TMDL target. These will be addressed in order, as follows:

1. "System potential" and "minimized human disturbance" are phrases selected to describe our best understanding of natural conditions that can be supported by available analytical methods. The simulations of these conditions use our best estimates of natural channel shape and vegetation that did not include human modifications such as the Levee. DEQ agrees that the natural thermal potential target should approximate natural conditions as closely as they can be determined. The Department also recognizes that it is not possible to perfectly characterize natural conditions in a river that has been substantially modified over more than one hundred years. Natural rates of hyporheic exchange are not fully accounted for because they are unknown. Natural channel cross-section and vegetation types are best estimates, however natural stream pattern (increased sinuosity) is not simulated due to limitations in model capabilities. Despite these limitations and estimations, the quality of thermal simulation for the Walla Walla River and South Fork is state-of-the-science, particularly at the subbasin scale, and represents the best available effort. DEQ and the technical reviewers outside of DEQ consider the model effort robust and meaningful, and that it successfully targets the best estimate of a natural thermal profile.

Where the linkage between potential watershed conditions and temperature was not fully established, measures of progress were established to address this limitation. For instance, though natural sinuosity was not included in temperature simulations, due to lack of tested model capability, it can still be estimated and is included as a "measure of progress." The narrative 'channel complexity' surrogate helps to address sinuosity and hyporheic exchange. In essence, DEQ left no stone unturned in its effort to fully express objectives targeting natural thermal potential.

2. Appendix A describes model input for system potential conditions, including: potential channel type and width, potential vegetation and an array of flows. These potential conditions are simulated through the length of the mainstem and the South Fork below Skiphorton Creek, including the Milton-Freewater Levee reach, as described in Chapter 3 of Appendix A. Potential channel width and vegetation relationships are developed as well, for the tributaries. In Figure 1-2, the Levee is shown as a location reference. The potential condition was simulated as if the Levee was not an impediment to channel narrowing and vegetation growth. DEQ agrees that the estimation of natural thermal potential should not allow for human-related heating within the Levee or other reaches. {Notes will be added to the main document and the technical appendix revisions for clarity on this point.}*

For other readers less familiar with TMDL protocol, it is noted here that TMDLs target the objectives (criteria) of water quality standards. The TMDL implementation plans, in turn, target all ***feasible*** steps toward achieving the TMDL. What is feasible for the Levee has not yet been determined.

3. The Oregon water quality temperature standard clearly defers to natural conditions when biologically-based criteria cannot be met if natural conditions were to be established. DEQ has made this determination to the best of our ability. Further, DEQ does not see natural conditions as a compromise, but rather the optimal approach to protect and restore beneficial uses. Lastly, as model capabilities evolve, TMDLs are re-visited, thus assuring the best computational applications through time.

**(1-2d) NWEA & NEDC Comment – Page 1-3: Moreover, the TMDL is not clear on when and where the criteria apply. For example, in this section it states that at all —other" locations or —outside the season of thermal potential assessment" the —other criteria" apply. TMDL at 1-3. It appears that the TMDL applies throughout the subbasin but nowhere else. This ambiguity must be corrected. In addition, it is unclear when the derived criteria apply, what it means for the —other" criteria to apply, and why this combination provides full support to designated and existing uses. Further, are biologically based criteria not attainable for the entire Walla Walla River or just the area by the levee? If other parts of the river can meet the biological criteria then the natural thermal potential cannot supersede. Finally, if these high temperatures are, in fact, reflective of natural conditions, the DEQ must explain how the salmonids were able to be fully supported in these waters. In other words, there must have been some level of complexity and refugia that allowed this result. Without requiring such mitigating factors to the high temperatures, the choice of what constitutes the standards in this TMDL do not provide full support and therefore fail the test of what constitutes an acceptable TMDL.**

Response – The season of thermal potential assessment is defined in Section j as "the timeframe in which the river exceeds the assessed July-August system potential." The location where the analysis has been conducted is stated in Section a; the mainstem and South Fork below Skiphorton Creek. The natural condition temperature criteria apply where natural condition temperatures were assessed, as discussed in Sections a, b and h. The "other" criteria are the criteria of the temperature standard other than the natural condition criteria, which are various. The temperature thresholds and geographic locations for biologically-based criteria are shown in Section c. Section titles seem clear as to content. DEQ does not see a lack of clarity here.

"Are the biologically based criteria not attainable for the entire Walla Walla River or just the area by the levee?" Compare Figure 1-2 with the biological criteria of Section c. The Bull Trout 12ºC criteria are exceeded from Harris Park (~ river km 98) to just above Milton-Freewater. At and below the Milton-Freewater levee, the core-cold water habitat criterion of 16ºC is exceeded. Note that once this TMDL is issued, these criteria would no longer apply during the TMDL season, having been superseded by the natural condition criteria.

Regarding the last two sentences of this comment, the return to natural channel morphology (including complexity) and vegetation, called for via the load allocations and surrogates, will also result in improved habitat and refugia. Also refer to the response to ***comment #G-6*** and ***#1-2c***.

**(1-2e) NWEA & NEDC Comment – Page 1-4: The temperature graph of the "Measured Temperatures' and the "Estimated Natural Temperatures' has found its way into the Fact Sheet, but not into the TMDL. The TMDL has a graph that shows an August 15, 2002 Simulation with three different Vegetation and Channel Potential simulations. It seems as if the two graphs are meant to illustrate the same data. Why is it that the fact sheet uses such a simple graph to show that the graph intends to correspond with the claim that the natural thermal potential is only what can be obtained, yet the TMDL figure does not have this simple explanation? Neither graph depicts what the biological numeric criteria should be for the rivers in order to show the layperson a comparison of the proposed higher natural thermal potential temperature contrasted to the biological numeric criteria that will not be adopted. The graph should also depict where the natural thermal potential will be used. Figure 1-2 maps out one day in August in 2002, and does not give any explanation whether the temperature that day could possibly have been higher than usual. Because the river is exposed to high temperatures from July-September, picking only one day in August may not accurately reflect the entire hot period. The graph also does not indicate whether the Seven Day Average Maximum Temperature (7DAMT) was utilized. Utilizing the 7DAMT would provide more reliable data because it would ensure that the day chosen was not atypically hot.**

Response – Regarding comparison of biologically-based and natural condition criteria, and simulated v. measured temperature, refer to the response to ***comments #1-2c and #1-2d***. Regarding "where the natural thermal potential will be used," it will be used where assessed – on the mainstem and the South Fork below Skiphorton Creek (see Sections a and b of draft document). Regarding the representativeness of one day in August and the 7DAMT, the weather was normal (Figure 2-11 in Appendix A) and 7 days were simulated. However, the graph shows only the single day, not the 7DAMT. The 7-day summary statistic was not considered necessary because the gap between potential temperature and biologically-based criteria is substantial on any given day in the simulation.

**(1-2f) NWEA & NEDC Comment – Page 1-4: The TMDL also states that there is room for additional pollution from future point sources. This is an absurd result when one considers the high temperatures that the TMDL has concluded are natural even though they are not protective. Any additional thermal load, particularly measured after complete mixing, as DEQ rules require, will nonetheless be additional heating that will cause local stress on aquatic life.**

**Since the Department has no proposed method of identifying or regulating the 0.3°C of incremental change, it might as well set the criterion even higher rather than engaging in the fiction that it will be monitoring the increment. This fiction undermines the integrity of the standards and the TMDL.**
**In addition, any definition of an allowable warming that sets the level as high as that proposed by the TMDL is unacceptable. This definition will allow for an unlimited warming of the waters.**

Response – This comment addresses the temperature standard. Refer to the response to ***comment #G-6***. The reviewer states that "this definition will allow for an unlimited warming of the waters." DEQ disagrees. The human use allowance limits the aggregate temperature increase from all sources to 0.3ºC, at points of maximum impact.

**(1-2g) NCS Comment – Page 1-4: the Plan states "Flows of roughly 45 to 100 CFS represent natural flow scenarios, depending on whether historic distributary branches of the River were active." It is submitted that there is zero scientific evidence that distributaries were not active in any natural flow condition at any time.**

Response* – DEQ agrees with this comment, as discussed on pages 1-5 and 1-6 of the draft. The Figure 1-2 caption on page 1-4 will be corrected as follows: "Flows of 45 to 100 CFS represent a range of natural ~~flow~~ heating scenarios, as described later in this section~~depending on whether historic distributary branches of the river were active~~."

**(1-2h) NWEA & NEDC Comment – Page 1-5, Addressing Stream Flow: The natural thermal potential is defined here, but the definition for natural conditions remains absent. If present, the natural conditions definition would contradict the new minimized human activity methodology versus the no human activity statutory rule. Moreover, after quoting the definition of natural thermal potential, DEQ goes on to say that flow effects —aren't readily described in terms of target pollutants." TMDL at 1-5. What is this supposed to mean? Granted, flow is not a pollutant but what else distinguishes it from the elements of a natural condition listed in the Department's own rules? Making allocations to everything except flows results in a TMDL that suggests that standards could be met and threatened and endangered species would be protected without restoring sufficient flow. This is false. Without addressing flow explicitly and clearly, the DEQ suggests that private and public entities could invest in expensive restoration and provide full support, something that is factually incorrect. This is an absurd hole in the TMDL.**

**Moreover, the discussion of the two flow profiles is unclear. We understand that a flow profile was chosen to approximate the natural width to depth ratio but it is unclear what the natural conditions actually were. Whatever weaknesses exist with regard to this TMDL on the flow issue jeopardize the voluntary actions that DEQ encourages to increase flows. This TMDL should leave nothing to the imagination with regard to how much and when the flows need to be restored in order to provide full support to beneficial uses and to provide sufficient pollutant dilution.**

Response – The natural conditions criteria of the temperature standard call for natural thermal potential temperatures. OAR 340-041-002(39) defines natural thermal potential as: "the determination of the thermal profile of a water body using best available methods of analysis and the best available information on the site-potential riparian vegetation, stream geomorphology, stream flows and other measures to reflect natural conditions." Hence the ***standard*** does address natural stream flow. The ***TMDL*** addresses stream flow by simulating temperature for a range of natural stream flow estimates. However, the reviewer accurately notes a lack of implementation assurance – flow targets are not linked to implementation planning and community will is relied upon. This is explained on page 1-5:

> *"The stream flow component of this definition is distinct from the others, in that flow effects aren't readily described in terms of target pollutants. Also, the CWA specifically states: "…nothing in this Act shall be construed to supersede or abrogate water rights to quantities of water which have been established by any state…" (Section 101(g)). The reader should note that DEQ is not the State authority for managing or regulating water quantity and distribution.*
>
> *This may seem paradoxical – one rule requiring targeting natural temperatures and related flows in a TMDL; and policy and jurisdictional limitations on doing so. And there's the reality that flow influences temperature. In order to resolve this, DEQ bases the TMDL allocations on solar radiant heat per unit stream surface area – such an allocation is not flow dependant. The resultant temperatures are flow dependant, and are simulated and published for a range of flows, including natural flow estimates. Flow however, is not allocated. The purpose of natural flow temperature profiles is to provide information. Restoration strategy development may benefit and, over time, the profiles inform the questions: are beneficial uses fully supported?"*

**(1-2i) NCS Comment – Page 1-6: clerical error in year of Mullan Map. Swegle is misspelled Sweagle at various places in the Plan and Appendix.**

Response* – The revision will incorporate these corrections.

**(1-3) EPA Comment – First bullet on page 1-8, change 'nor' to 'not'.**

Response* – The revision will incorporate this recommendation.

**(1-3b) NWEA & NEDC Comment – Page 1-8, Water Quality Standards and Beneficial Uses: This section on Water Quality Standards fails to reference the antidegradation policy. It sets the stage for the TMDL to ignore significant issues such as whether it will protect the most sensitive beneficial uses, whether it will protect existing uses, and whether it will meet the criteria. This section should discuss the narrative criteria relating to threatened and endangered species. In other words, the TMDL should contain a "gap analysis' to evaluate the role of antidegradation, beneficial use support, and narrative criteria.**

**There is also no mention of identifying or protecting cold-water refugia. The standards must be flawed in requiring the protection of cold-water refugia that the DEQ itself cannot even identify to protect. Or, there has been a misinterpretation of the standards requiring protection of cold-water refugia because nothing in this TMDL addresses this critical issue.**

**Unfortunately, the TMDL's analysis of beneficial uses is simplistic and undermines the analysis of the entire document. This is the first place in the TMDL when it becomes apparent that the Department is ignoring the legal definition of a water quality standard; water quality standards consist of uses, either designated or existing, and criteria to protect the use. Specifically, it omits reference to the antidegradation policy. This policy requires protection of all existing uses, those that have been attained at any time since 1975, including uses actually being made, regardless of the quality level and uses for which the level of quality has been attained. While the seasons of salmonid spawning are identified, there is no analysis to suggest whether the temperature TMDL that focuses on the critical high temperature conditions of the summer can protect the sensitive use. It seems too easy to just say the temperature will not be attainable and to move on. The DEQ must protect the existing uses.**

**This section does not identify any cold-water amphibians that may be more sensitive to the pollutants evaluated in the TMDL. And, nowhere in the TMDL does it state the extensive effects the temperature will have on migration and spawning behaviors. As the DEQ is aware, the more these life cycle activities are constricted in time and place the greater the negative impact over time on the remaining populations of fish and their all-important genetic diversity. It is imperative that the DEQ protect the existing uses; if they adopt criteria that does not protect all life stages of the salmonids they will be violating water quality standards**

Response – The TMDL is designed such that load allocations will reduce current thermal inputs to a level that will meet numeric criteria of water quality standards during the warm season. Since the primary source of thermal loading at this time is solar radiation it is reasonable to expect that those actions necessary to achieve thermal reduction in the summer will be effective during other seasons, including periods of salmonid spawning. The Department agrees that antidegradation is an important component of the State's implementation of the Clean Water Act (CWA) and will be utilized appropriately as DEQ carries out this responsibility. The Department believes that actions taken to achieve this TMDL will lead to improved water quality and not degradation (relative to current and historic time frames). Implementation of the antidegratation policy will not affect load and wasteload allocations in the TMDL. It is important to recognize that achieving load allocation surrogates for temperature will also lead to concomitant protection and expansion of areas of cold water refugia and other habitat values.

The suggested beneficial use analysis, in effect, is already accomplished via the standard. The TMDL is not attempting to review the standard statewide or for the Walla Walla Subbasin. We are not aware of any specific information that would suggest any other uses would be impaired by improving water quality in order to meet the existing water quality standard . The standard includes a statewide assessment of the timing and location of these uses (salmon and trout, in the Walla Walla Subbasin).

With regard to protection being based on the critical high temperatures of summer; this the most critical time frame for load allocation development when addressing solar radiation. Temperatures are highest, and nonpoint source

measures to reduce temperatures at this time will be most stringent, and protective throughout the warm season, as well as providing for better habitat year round.

Finally, the reviewer seems to suggest that natural conditions are not protective of beneficial uses. DEQ does not agree.

**(1-3c) NWEA & NEDC Comment – Page 1-8, Water Quality Standards and Beneficial Uses: Nothing is mentioned regarding "natural events' that may interfere with or delay attainment of the TMDL. According to the Walla Walla Basin Outlook Report, the stream flow for 2005 will be 73% and shortages can be expected. Less stream flow will definitely influence the potential estimates utilizing stream flow modifications, not to mention the existing stream flow and how this will impact fish migration, agriculture and private water use. In addition, there should be some emphasis on the need to build in resistance to high-energy flows so that natural events have less of a likelihood of preventing timely attainment of standards.**

**The reference to the bull trout criteria for spawning and rearing, which is wholly inadequate to protect the species, receives no attention. The rationale that the criterion is protective is predicated upon the notion that streams will actually be colder than the criterion yet the TMDL does nothing to demonstrate this will be true. In fact, there is no discussion of whether the streams ostensibly covered under this temperature TMDL meet or exceed the bull trout criteria let alone what is happening during the times when the bull trout criteria apply to the streams. The bull trout require cold temperatures for spawning. Designating a rearing 12ºC temperature for spawning that requires a 9ºC or colder temperature indicates flawed standards.**

**Finally, the discussion on natural temperature profiles superseding the numeric criteria demonstrates the nonsensical nature of the standards. A natural profile includes temperatures well below the numeric criteria whereas DEQ only allows for temperatures that are at the criteria or higher. There is nothing natural or protective about this approach. This is particularly absurd given DEQ's position that the standard is protective precisely because the temperatures will be cooler than the criteria, a phenomenon its rules do not protect. Likewise, the TMDL states that the natural temperature supersedes the numeric criteria except at times and locations where it has not been assessed. However, it fails to identify specifically where and when this is, other than stating it is —cool season and tributaries other than the modeled part of the South Fork." What cool season? What tributaries exceed the criteria?**

Response – 1st paragraph above: Such an accounting for natural events would not change the numeric objectives of the TMDL and natural disturbance, including drought, is discussed on page iv of the main document draft. Also refer to the response to ***comment #1-2h*** regarding DEQ's practice concerning flow.

2nd paragraph above: The Bull Trout criteria are met above river kilometer 98 (Figure 1-2). This is the area at and above Harris County Park. In this reach where the biologically-based Bull Trout criterion is attained, it is considered the criterion for that reach – it is only superseded by natural condition where the natural condition is higher than the criterion. Of course, because the temperature of that reach must be even colder under the TMDL analysis in order to meet the natural condition downstream, the TMDL targets are colder than the numeric criterion. The bull trout criterion of 12° is aimed at protecting juvenile rearing and applies to reaches where spawning and juvenile rearing occur. It applies to the warmest 7-day period of the year and because bull trout spawning reaches almost always occur above point source discharges, the assumption is made that a stream that is functioning in a manner that can meet 12°C during the warmest week will have cooler temperatures for spawning season. On a state-wide basis, a specific spawning criterion for 4 areas that are below reservoirs is added, where DEQ recognized that this assumption may not hold true. It would be a misunderstanding to interpret that DEQ believes 12°C is protective of spawning.

3rd paragraph above: the reviewer is referred to the response to ***comment #G-6*** regarding the temperature standard and ***#1-2d*** regarding TMDL spatial and temporal applicability.

**(1-4) EPA Comment – Page 1-9, (d) and Table 1-5: The loading capacity (LC) only refers to the total LC of the system. The divisions of the LC are allocations. It is confusing when LC is used for the parts then later stated as allocations. This section would be clearer if stated in terms of allocations – waste load allocation, load allocation, margin of safety, reserve capacity. This section would be clearer if the equations were stated thus: LC = Wasteload Allocation + Load Allocation + Margin of Safety + Reserve Capacity.**

Response* – The document will be modified as recommended. For clarity regarding this comment, DEQ notes that the temperature load allocation is the sum of allocations to nonpoint sources, both natural and human. These leads to two load allocations, where the latter is assigned zero (except for the human-use-allowance based reserve capacity) because the target is natural conditions.

**(1-4b) NWEA & NEDC Comment – Page 1-9 & 1-10, Loading Capacity and excess load: As DEQ points out, a TMDL is the greatest amount of loading a waterbody can receive without violating —standards." It would be useful if, in its evaluation, the Department recalled that the issue concerns meeting standards not using the TMDL to determine alternative numeric criteria. As far as future sources, the TMDL incorrectly suggests any can be allowed. Given the fact that no credible biologically based criteria will be met by this TMDL, DEQ cannot sanction any increased heating of its streams, either above naturally cooler conditions or above naturally hot conditions. To allow for further heating above the already hot temperature would prove that the DEQ has misinterpreted the standards or the standards are flawed because the salmonids cannot take any further heating since the temperature already remains above biologically necessary levels.**

**Page 1-10. Excess Load This brief discussion of excess load, which assigns blame for 51 percent to humans, is not clear. First, given that the TMDL re-sets the criteria at natural or some approximation of natural, it is unclear what is the remaining 49 percent of loading. Second, this discussion does not explain how water flows are evaluated to determine the effects of human activities.**

Response – 1st paragraph above: refer to the response to ***comment #G-6***. The standard does call for natural conditions to supersede biologically-based criteria when the former naturally exceeds the latter.

2nd paragraph above: Fifty-one percent of the existing solar radiant heat is caused by human activities and forty-nine is natural. This seems clear in Section e of the draft, and is elaborated on in detail in Appendix A. Regarding flows, refer to the response to ***comment #1-2h***.

**(1-5) EPA Comment – Page 1-10, Table 1-5: The total LC should also be included in this table (52.9 MW/day).**

Response* – The revision will incorporate this recommendation.

**(1-5b) NWEA & NEDC Comment – Page 1-11, Pollutant Sources and Jurisdictions: DEQ does not explain why it determines the Umatilla National Forest to be at system potential vegetation. Has it not been logged and are there no logging roads? If so, this should be made explicit.**

**Given the discussion of the stream losing water, rather than gaining groundwater in certain areas, it is unclear how DEQ can rely on groundwater inputs as a conservative assumption upon which an implicit margin of safety is based. In addition, if the Department does not know enough about groundwater inputs, as it should, how can it claim to determine the natural thermal potential of the waterbodies?**

**The TMDL is unclear in its discussion of Pine Creek. This three-sentence paragraph states that Pine Creek was not modeled because the flow is small, that point sources are given mixing zones, and that the numeric criteria provide the needed targets. These sentences do not explain why Pine Creek wasn't modeled or why the numeric criteria are the targets. We do not argue that discharge to Pine Creek should be allowed although the TMDL should explain the reason for the low flow.**

Response – 1st paragraph above: This is stated explicitly in the memo from the USFS to ODEQ, page 74 of Appendix A and referenced on page 1-11 of the draft main document. The reviewer is also referred to the response to ***comment #2-7***.

2nd paragraph above: For TMDLs, conservative assumptions are those that lead to increased protection, which is generally correlative with a wider gap between existing and potential temperatures. Because the temperature model was calibrated to measured temperatures without fully accounting for groundwater input, greater temperature reduction is predicted when comparing to simulated potential (reduced) solar radiation (groundwater would be a heat sink that would buffer the effect of decreased solar heating).

3rd paragraph above: The TMDL does not attempt to explain every facet of watershed behavior. Pine Creek simply is an intermittent creek and probably has been for hundreds of years. Modeling obviously requires flow. Currently, available models are limited to fairly narrow time frames (e.g., 21 days), so modeling across the season of intermittency is not practicable. Moreover, because the Weston WWTP is eliminating its discharge, it would have been a poor use of tax dollars to conduct the detailed assessment needed for modeling. Elimination of discharge is also the reason for minimizing discussion of TMDL implications for the facility.

**(1-6) EPA Comment – Page 1-13, 2nd paragraph of section (g): This paragraph states what National Pollutant Discharge Elimination System (NPDES) permit facilities exist in the Oregon portion of the subbasin and their current permit status. For consistency it should be noted in this section:**

- **That this paragraph should include a statement such as "Thus, the source was not given a WLA."**
- **Permit numbers for the two NPDES permits discussed should be included.**
- **This paragraph raises the question "Is the trigger for a permit the annual fish production or is it the size of the discharge?" This paragraph states that if fish production is less than 20,000 lbs/year then a permit is not required. Six paragraphs later it states that the possible expansion could result in an additional 3 CFS discharge and pollutant load that would require a permit.**
- **Weston does not discharge during the summer months and is thus not given an allocation. (Even though this is said in the following section, it would be good to state it in this summary).**
- **Future point sources may access the reserve allocation (as is stated in the following section). For clarity this should also be stated here.**
- **Something should be said about the Milton-Freewater Waste Water Treatment Plant, just to indicate is was not overlooked. Since its wastewater must go somewhere, note where that is.**

Response to 1st bullet* – The paragraph will be concluded with "Neither facility is assigned a WLA for reasons discussed later in this section."

Response to 2nd bullet* – The permit numbers will be included in this paragraph. The WWTP and Acclimation Facility NPDES permit numbers are OR-002067-2 and OR004129-7, respectively.

Response to 3rd bullet – the statement under discussion includes '…processes less fish than the minimum amount for which a ***general*** permit is required." In the 6 paragraph following, an ***individual facility*** permit is referenced. Generally speaking, a WLA could be deemed necessary for a facility with or without either type of permit (general or individual), if the pollutant discharge to a water quality limited stream were significant. If the necessity of a WLA was determined, an individual facilities permit would likely then be required in order to implement the WLA.

Response to 4th bullet* – refer to response to 1st bullet, ***comment #1-6***.

Response to 5th bullet* – The revision will incorporate this recommendation.

Response to 6th bullet* – The revision will incorporate this suggestion. The revision will describe that the City of Milton-Freewater's treated effluent undergoes re-use, for crop irrigation northwest of the City. This would not contribute thermal loading to the Walla Walla River or its tributaries.

**(1-7) EPA Comment – Page 1-14, 1st paragraph: It should be noted that ODEQ has determined that, due to facility size, this facility no longer requires an NPDES permit.**

Response* – The revision will incorporate this recommendation. This concluding sentence will be added: "As stated previously in this section, the permit has been since withdrawn and permit coverage has been considered unnecessary due to the small amount of fish processed."

**(1-8) EPA Comment – Page 1-14, 3rd paragraph: ODEQ can designate WLAs to point sources regardless of whether the facility operator requests an allocation. It may be more accurate if the first sentence were modified to read: "Because the facility is not currently regulated under the NPDES program, the function of…"**

Response* – DEQ agrees with EPA's assertion that the need for a WLA is not contingent upon facility request. However, in the event that DEQ did not deem a WLA necessary, we would still consider issuing a WLA based on request (providing that assimilative capacity is available and the appropriate permitting process is in place). This would make sense for a facility that is not normally discharging a pollutant of concern but believed they had the potential to under certain conditions. This paragraph will be re-organized to better reflect this.

**(1-9) EPA Comment – Page 1-14/15: City of Weston - The TMDL does not currently have a season of application, thus it could be assumed it applies year round. If this is the case, a WLA of zero applies at all times at Weston. If this is not the intent, the TMDL should be written such that it specifically defines the season of application and notes that the WLAs only apply during that period. From the text, it appears this would be dependent on the bull trout criteria and thus exceedences occur between May and October.**

Response – A zero WLA is assigned to the City of Weston WWTP (Table 1-5 in main document draft). Note that the implication of having a zero WLA, is that no pollutant discharge is allowed, as follows: For temperature the pollutant is heat. No increase in temperature, over the water quality standard (WQS) criteria, would occur if effluent temperatures are such that WQS criteria (including the human use allowance) are met after mixing. In this circumstance no *excess heating* has occurred, though effluent may have been discharged. The point here is that a WLA would not necessarily result in the elimination of effluent discharge. Because of this, and because the draft TMDL does not produce site-specific criteria or loading and there are no other point sources nearby, the zero WLA would not limit the WWTP discharge anymore than the water quality standard does. The water quality standard applies throughout the year. Accordingly, DEQ sees no benefit in stipulating an explicit TMDL time period for the WWTP. It is also noted that through the permit process the facility has been strictly limited as to when discharge can occur ***and*** the only approved future path is to eliminate discharge year around, via land application.

An incidental note of clarity would be that the TMDL does have a season of application (refer to Section j – when the river exceeds the July-August system potential temperature), though this is not particularly useful given the lack of site-specific WLA within the simulated Walla Walla River and South Fork, and would only apply in simulated reaches.

With little data and no 303(d) listing for Pine Creek, it is an informative excercise to consider when a WLA would apply if a time period were set. The 303(d) listed water that Pine Creek drains to would not likely be influenced by the Weston WWTP, as Weston is at River Mile 24. There is no site specific natural condition criteria set by the TMDL since temperature was not simulated for Pine Creek (refer to the response to **comment #1-5b**). The criteria exceeded (and listed for) in the Walla Walla River at the mouth of Pine Creek is a *warm season* salmonid-based criteria. Accordingly, there is some logical basis for a WLA time frame to be set for the time of application of the *warm season* criteria in the WWTP reach. This would be the salmon and trout rearing and migration criteria of 18.0ºC, which for Pine Creek would apply year round. Alternatively, the time frame could be set for when Washington's warm season criteria apply, or when flows are less than 30 times the effluent flow, as stipulated in the permit. In any event, as mentioned, the WLA would in this case be no more restrictive than the standard and the City will be eliminating its discharge shortly, hence a time frame is not specified.

**(1-10) EPA Comment – Page 1-19: Last sentence of second paragraph – this sentence would make better sense if the "and" was changed to "an" with a comma before it.**

Response* – The sentence will be simplified to read as follows in the revised document: "Effective shade is proportional to the solar radiation heat load allocation (Figure 1-7)."

**(1-11) EPA Comment – Page 1-19, "surrogate measure #1" section, last line – this sentence would be clearer if "than" was replaced with "that."**

Response* – The revision will incorporate this recommendation.

**(1-11b) NWEA & NEDC Comment – Page 1-10, Surrogate Measure: The surrogate measures provided are a commendable approach to the difficult problem. NWEA supports DEQ's effort of increasing shade to decrease solar radiation. This is an important factor in reaching a higher water quality standard, but it is not**

**the only factor to be considered, such as sinuosity and cumulative effects from other human activities. Providing additional tools that supplement the TMDL is important, especially because of the limited application of a TMDL. The surrogate measure provides tangible objectives that will help guide further water quality and monitoring. We also agree that surrogates must include more than stream shading, particularly width:depth ratio. We are concerned that sinuosity is ignored as an important surrogate. Both of these two items would benefit from explicit statements concerning erosion. Additionally, there is no statement concerning the needed width of a riparian zone's vegetation to establish the system potential shade.**

Response – DEQ agrees that sinuosity and buffer width would be beneficial surrogates. Unfortunately, defensible modeling techniques for sinuosity are still undeveloped. And DEQ has not yet tested an approach to determining temperature buffer widths that would fully account for site specific variables and mesh with buffer widths designed for other values – ESA, other parameters, channel morphology, large woody debris, etc. The Walla Walla approach attempts to compensate for this lack by publishing "measures of progress" for sinuosity, meander belt width and by recognizing that buffer width is inherent in the effective shade surrogate via the density component (i.e., shade is a function of buffer height, width, density, etc.). Also refer to responses to ***comments #1-2c and #1-11c***.

**(1-11c) ODA Comment – Page 1-23, Table 1-8: The "Measures of Progress" listed in the table are definitely valuable indicators of stream restoration. It is not clear of the value of these measures towards meeting the TMDL, however. Is DEQ working towards using these values as surrogates? We would appreciate DEQ evaluating the potential for using these measures as surrogates.**

Response – The following is expressed on page 1-22 of the draft document:

> "In addition to the previously described load allocations and surrogates, other targets can be tracked as progress is made towards a more natural heating condition. With some exceptions, these other 'measures of progress' have not been evaluated in terms of temperature reduction due to limitations in assessment capabilities or model technology. However, some measures can be quantified in terms of their expected value in the Walla Walla Subbasin (e.g., sinuosity, meander belt width), and some can be addressed narratively.
>
> These other 'measures of progress' are listed in **Table 1-8**. These do not have the status of a TMDL load allocation or TMDL surrogate, because "surrogate environmental indicators should be clearly related to the water quality standard that the TMDL is designed to achieve" (EPA 1998). While these measures clearly lead to more natural and generally cooler streams, quantitative assessment of their resultant cooling is impractical. These measures are included here to provide increased clarity on the range of management practices and projects available to bring the stream system to a more natural thermal condition."

DEQ and other agencies are continually striving towards better characterization of natural thermal conditions and their explicit relationship to temperature.

**(1-11d) NWEA & NEDC Comment – Page 1-24, Figure 1-13: The description for Figure 1-13 states it is diel temperature but the graph labels it as diurnal temperature. We recommend the diel temperature because it includes a 24-hour period, whereas, diurnal has a daily cycle and occurs in the daytime.**

Response* – The revision will incorporate this recommendation.

**(1-12) EPA Comment – Page 1-25, Section (i), 2nd paragraph: This paragraph states implicit margins of safety used in this TMDL. It should be noted in this section:**

- **Stating that "natural disturbance was not accounted for," does not appear to be a conservative assumption. Please explain why omitting a temperature increasing attribute from the model constitutes a margin of safety.**
- **There are two sentences regarding groundwater inflow in this paragraph, but they are separated by a sentence about wind speed. For clarity the groundwater inflow sentences should be kept together.**

Response to 1st bullet* – …"natural disturbance was not accounted for" will be deleted in the revised document.

Response to 2nd bullet* – The revision will incorporate this recommendation.

**(1-12b) NWEA & NEDC Comment – Page 1-25, Margin of Safety: There is no explanation why the assumptions made are conservative. The TMDL is primarily an exercise to state what the criteria will be to replace the biologically based numeric criteria. In modeling those so-called natural conditions, without knowing groundwater inputs, the criteria are likely to come out hotter, which is not conservative. To claim that —cooler microclimates" will exist is a pipe dream. We agree that it is illogical to assume that anything more than natural conditions will occur but we do not agree that, particularly given the absence of specific flow needs, the TMDL is conservative or reflective of natural conditions.**

Response – Refer to response to ***comments #1-5b, #1-2c and #1-2h***. Further, DEQ believes that cooler microclimates are probable, given increased vegetation, channel complexity, sinuosity, etc.

**(1-13) EPA Comment – Page 1-25, Section (j): It might be desirable to mention here or in the "Water Quality Standard Attainment" section that though modeling and allocations are focused on quantifying and addressing summer season temperature impairments, the allocations will also address spring and fall season impairments.**

Response* – In the revised document a concluding sentence will be added to the first paragraph of Section (j): "It is also noted that while the load allocations are developed based on the warmest time of year, reduced impairment associated with load allocation implementation extends over a broad time frame – spring, summer and fall."

**(1-13b) NWEA & NEDC Comment – P. 1-25, Seasonal Variation and TMDL Time Frame: The discussion that seasonal timeframes are not a critical concern for non-point sources fails to discuss how meeting the TMDL affects temperatures, other than during the hottest time of year, to protect bull trout and salmonid spawning. This is a serious oversight.**
**This section creates more ambiguity in the standards and the TMDL. What does the Department mean when it says that the —target varies longitudinally"? What does it mean when it implies that the standard only applies during July and August? Why does this section state that the TMDL only applies to assessed waters, whereas earlier in the document it states it applies to all perennial streams in the subbasin?**

Response – Because vegetation and channel morphology are year round features, occurring not just at the "hottest time of year," the natural conditions called for through the load allocations will provide for spawning as well. This is particularly true since point sources are not an issue, though if future point sources are established, they would target biologically-based criteria in the non-TMDL season. Also refer to response to ***comment #1-13***.

The statement "The temperature target varies longitudinally" means that the natural thermal profile temperatures (Figure 1-2 in the draft main document), which the TMDL targets for allocation development, vary up- and down-stream. In essence, the TMDL produces site-specific criteria for the mainstem and South Fork, based on temperatures that typically occur in July and August (the simulation was for August 10-16). Logically, these supersede other criteria during the time frame when the river exceeds the Figure 1-2 temperatures for the 45 and 100 CFS flow scenarios.

The last sentence of this comment should be corrected to say "the TMDL target of system potential temperatures only applies where assessed…" One generally would not apply a nonexistent target. The TMDL applies to all perennial streams in that it includes surrogates (Surrogate Measure #2) for tributaries where system potential vegetation was identified, but temperature simulations were not conducted.

**(1-14) EPA Comment – Page 1-26, Section (k), 2nd and 3rd paragraphs: The document states that the 0.3 ºC reserve capacity is being held for both future non-point and point source loadings. The latter paragraph indicates there would be a future NPDES permit process to utilize reserve capacity. There is no mention of how non-point sources would be evaluated or monitored to see if they are using up reserve capacity. If there will be nonpoint source monitoring to see how much reserve capacity actually exists at the future date when an NPDES permit would be issued, it would be good to state this.**

Response* – The intent of the draft document is to make the HUA-based RC available to point sources only (Section b's *Human Use Allowance* and Table 1-5). The document will be made clearer on this point by modifying the second paragraph, last sentence, as follows: "Because human-based thermal input is not otherwise accounted for ~~both point source waste load allocations and non-point source load allocations are both established at zero~~ in this TMDL, DEQ will allocate the entire human use allowance to "reserve capacity" for possible future or expanded point sources (also discussed in Section b)."

It is also noted that the reserve capacity, as defined in the Walla Walla TMDL, though an inherent part of the loading capacity (LC), would not be quantified until applied for, since it is based on the human use allowance (HUA). In terms of heat loading, the HUA (0.3ºC), depends on flow at to-be-determined location(s) (no sources have applied for RC). This lack of quantification in the LC is not considered an issue of concern, since the purpose of the LC is to target the standard, the standard contains the HUA and the HUA heat load would be a relatively small part of the LC. For instance, let's assume that an unusually large point source located above Milton-Freewater discharges at a rate of 5 cubic feet per second to an existing river flow of 95 CFS. The effluent temperature is such that the resulting temperature increase is 0.3ºC in the summer afternoon. This would amount to a daily average heating rate of 3.56 MW (see inset below), as compared to the 52.9 MW LC. Note that the LC and its components are expressed in terms of MW/day in the draft document. This should be the early-mid August daily average heating rate, expressed in terms of MW – {this will be corrected in the revised document.}*

> One hundred CFS produces a daily water mass of 2.45E8 kg.
> Given that mass * heat capacity * 0.3ºC = energy needed to increase temperature by 0.3ºC, then
> 2.45E8 kg * 4.184E-3 MJ/(kg * ºC) * 0.3ºC = 3.08E-5MJ
> To convert to daily average power, divide energy by the number of seconds per day, yielding:
> 3.08E-5MJ / 86400 = 3.56 MW
>
> Where kg is kilogram, C is Celsius, MJ is megajoule, MW is megawatt

**(1-15) NWEA & NEDC Comment – P. 1-26, Reserve Capacity: We strongly disagree that this subbasin has any reserve capacity. At the very least, the TMDL must state that until the standards are attained, there can be no additional new sources. In addition, it should state there can be no new withdrawals of water. The Department fails to ensure the full support of designated uses when it interprets its standards to mean that it can choose criteria that are too hot and then add an additional thermal load.**

Response – Refer to response to ***comments #G-6, #1-2h and #1-14***.

**(1-16) NWEA & NEDC Comment – P. 1-27, Water Quality Standard Attainment Analysis: This analysis does not include the timeframe in which standards will be attained. Without this critical piece of information, the Department renders the TMDL nearly moot. Without a rate of improvement that can be derived from such a timeframe, the controls, practices and restoration activities needed will occur on such an attenuated basis as to make the point of this exercise useless. Moreover, a watershed TMDL such as this should examine, detail and explain the need to provide protection to the existing uses, especially the sensitive uses, particularly in light of the document's stated inability to meet water quality standards. Yet, no discussion takes place in the TMDL regarding protecting or creating cold-water refugia, protecting wetlands, increasing groundwater flows, or other forms of protective natural regimes for the river system. This section of the TMDL only**

**contains a chart rearranged from the previous potential graph. It does not contain anything concerning attainment of water quality standards.**

**In addition, the discussion on the —most dramatic potential spatial temperature reduction" is unclear. What is the value of this analysis? Moreover, what is the Department attempting to accomplish by stating that the —sub-lethal temperatures for Chinook salmon and steelhead are 25ºC (77ºF) and 25.6ºC (78ºF), respectively"? TMDL at 1-27. This seems to convey that the derived criteria in the TMDL are protective. If this is the Department's intent, it should resubmit these criteria to the EPA for approval, otherwise the DEQ seriously misinterpreted the standards.**

Response – A discussion on the time frame of TMDL attainment is provided on page 2-5 of the main document draft. More information will be available through the designated management agency implementation plans submitted in the next phase of TMDL documentation. DEQ does not see the lack of explicitly addressing cold-water refugia, wetlands, etc. as a drawback. These attributes will tend to be associated with implementation of the allocations and measures of progress and will be encouraged as a key part of restoration. DEQ practices allocating variables that can be quantifiably related to temperature at the subbasin scale. Also refer to response to ***comment #1-2d***.

Figures 1-15 and 1-16 in this section plot the spatial distribution of attainment of various temperature intervals, including various restoration scenarios. This provides a quantitative picture comparing attainment of natural conditions to current conditions and other scenarios. The point of the discussion referencing various biologic thresholds is to illustrate that as natural condition are attained there are less sub-lethal and more rearing/migration miles of habitat.

## Comment & Response – Part Two

**(2-1) NWEA & NEDC Comment – P. 2-4, Goals and Objectives & (C) Proposed Management Strategies: The ultimate goal of every WQMP, attainment of water quality standards at the earliest possible date, directs the DEQ's to design objectives to pursue this goal. Although the WQMP states that its goal is to improve the riparian and channel conditions, as well as to encourage in-stream flow, nothing in the WQMP states how, when, where and who will take on these projects. Funding and timelines are absent from the WQMP. The WQMP will never attain WQS without describing how the implementation of these goals will achieve WQS.**

**NWEA supports increasing the sinuosity of the river but we are curious again as to whom, how, when and where this will take place. Funding also poses major concerns to us. The WQMP mentions it could be passive or active restoration, but gives no details at all. The WQMP omits timelines.**

**It is absurd that DEQ states, —increased flow is not an objective required by the TMDL." That DEQ, which lacks authority to control nonpoint sources as much as it does to control water withdrawals, would undermine the potential for this TMDL to act as a blueprint for actions needed to meet water quality standards, is inexplicable.**

**In order for the WQMP to be effective for pollution controls and for attaining water quality standards, it is crucial the WQMP is explicit about which management measures, practices, or other activities and tasks will be employed to achieve which objectives; where and when the measures will be used; and how application of the measures will achieve the stated objectives. DEQ, Guidance for Developing Water Quality Management Plans That Will Function as TMDL's for Non-point Sources 10 (Nov. 1, 1997)(hereinafter cited as Guidance).**

**P. 2-5 (D) Timeline for Implementing Management Strategies: The DEQ inadequately prepared this portion of the WQMP. There are no timelines listed at all in this section. There should be a timeline for scheduling permits, schedule for achieving appropriate incremental and measurable water quality targets, schedule for implementing control actions, and a schedule for completing measurable milestones. Instead, the DEQ skirts around the issue of providing anything concrete in its proposed management strategies and leaves those duties to the DMAs. Now, the DEQ will not have to be a part of any implementation of management strategies, nor the creation and oversight of any timelines, except, of course, for the deadline to submit an implementation plan. Instead, DEQ should not propose timelines for when the implementation plans from the DMA's are due. It should, however, provide dates, milestones, and effectiveness evaluations. The DEQ should guide the DMAs with their plans and obligations, not just leave it to chance that they fulfill their duties.**

**P. 2-5 (E) Relationship of Management Strategies to Attainment of WQS: The WQMP states that WQS will be met if sufficient stream flow restoration occurs. DEQ knows that it does not have control over stream flows, and cannot rely on the stream flow to be regulated according to a TMDL. The DEQ should not only state that the WQS is dependent on the stream flow, but it should also include that increasing stream flow remains one of the main necessities in order to achieve WQS. In other words, increasing stream flow is the definition of meeting water quality standards in this subbasin. DEQ must also state that increasing stream flows are unlikely to occur to address the problems with temperature in the river because of the lack of control over increasing stream flows. This section should have a detailed explanation of how the implementation of the management strategies will result in attainment of WQS.**

**P. 2-5 (F) Timeline for Attainment of WQS: The DEQ does not act aggressively with this TMDL. For example, the levee has not been addressed. The statement "as soon as feasible' does not qualify as a timeline, does not have a deadline, and gives the impression that this will go on for decades without WQS attainment.**

**The DEQ does admit that vegetation growth can take decades, almost a century to restore, but no reference to other projects that address the temperature problem occurs in the TMDL. Other measures can be taken to help improve the temperature. These need to be accomplished sooner than later because these species are on the verge of extinction and it is possible that they cannot wait 50 years for some shade. In any case, shade will not come about without implementation and this document sets no timeframe for basic implementation.**

Response – DEQ agrees that soon is best. Regarding time lines and responsibilities, DEQ also recognizes that nonpoint source pollution reduction is a complex social issue. Multi-organizational jurisdictions (e.g., the Milton-Freewater Levee), insufficient funding, developing social & legal mechanisms for implementation, complex restoration questions and the fact that implementation plans are not yet available – are some of the issues that lead to uncertain schedules and generalized planning in this initial phase. DEQ embraces the Clean Water Act principle of a continuous planning processes (CWA Section 303e). Hence we employ the approach to first generate numeric goals (TMDLs), second develop the framework WQMP (Part Two of the draft TMDL), and third fill in WQMP placeholders with the designated management agency implementation plans. Refer to the response to ***comment #G-7***.

Regarding stream flows, the draft document does indicate that attaining standards is dependant on stream flow (Section b). Also refer the response to ***comment #1-2h***.

Regarding "who will take on these projects," it is clear to us in the document that this is the task of the designated management agencies, or, regarding the Milton-Freewater Levee, the first step is further evaluation by the indicated organizations.

**(2-2) NWEA & NEDC Comment – P. 2-8, Existing Planning Framework and Expected TMDL Response, Point Sources: It is appropriate that point sources are given allocations of zero. However, it is unclear what general permits are allowed in the subbasin. The TMDL should be clear on how it restricts activities regulated by such general NPDES permits.**

Response – The draft TMDL identifies the point sources of potential concern – the South Fork Acclimation Facility and the Weston WWTP. That said, the TMDL has little bearing on these facilities because of the insignificant heat load from the acclimation facility and the planned elimination of direct discharge at Weston. The only other direct discharges are stormwater. The only identified warm season direct discharge of storm water provides substantial cooling, and is therefore not a heat source.

**(2-3) NWEA & NEDC Comment – P. 2-8, Existing Planning Framework and Expected TMDL Response, Nonpoint Sources, Agricultural Lands: The reliance on the ODA's AgWQMP for the Walla Walla subbasin will not have the force necessary to achieve water quality standards.**

**The AgWQMP addresses Streamside and Riparian Area Management, stating, —they must have allowed the establishment, growth and maintenance of riparian vegetation." Walla Walla Loc. Agric. Water Quality Advisory Committee, Walla Walla AgWQMP Guidance Document and Administrative Rules 20 (April 17; 2002); OAR 603-095-1740(3)(a) (2003). This starting point does not address the main goal of the WQMP, namely restoring the vegetation. If no rule forces an agency or landowner to plant trees for shading it will not get done. The rule as it stands simply tells landowners to allow the riparian vegetation to grow but this zone needs active replanting so that the right trees will grow to provide the necessary shade.**

**The AgWQMP addresses Soil Erosion and Sediment Control. The administrative rule tells landowners they must control soil erosion using practical and available methods. The mandate of practical and available methods is too broad and allows landowners to implement only the most economical changes. It does not force them to implement the major and effective methods that would assure attainment of WQS. Considering many of these agricultural sources have been and continue to be a source of the temperature problem, they should be mandated to help the problem and not just provide a band-aid every now and then.**

**Regarding rangelands, without mandating landowners to use the best available methods, it is hard to predict whether WQS will be achieved. This may be due to the fact that the DEQ allowed the ODA to set up its implementation plan with no guidance or restrictions as to what the river requires for attainment of water quality standards.**

**Livestock grazing is a major cause of sediment and the AgWQMP should mandate best available controls, meaning controls that are sufficient to attain standards.**

**The monitoring section is inadequate. Ineffective monitoring is like having no plan at all. Having rules does not mean they will be followed and rules may be inadequate, a fact that cannot be established without monitoring. The AgWQMP should have detailed when, where, how often, and who was going to monitor to ensure compliance. Instead, we are left with a set of rules that may not be followed because there is no monitoring.**

**In addition, the biennial review of the AgWQMP has been completed. We do commend the actions taken so far, they are a start and will make a difference. Steps are being taken by farms but are they enough? Will the plan be aggressive enough to attain WQS as soon as possible? Will the extent of the plan be suitable to attain WQS? The answer to all of these questions is probably no. So far, in two years, only nine projects have been implemented that stem from the AgWQMP that deal with stream temperature and restoration on 74 acres. Fifteen projects have been implemented under federal programs to reduce soil erosion on a couple thousand acres. Only 81 farms have implemented water efficiency on 582 acres. This is a great start, but considering the subbasin has 133,000 acres of cropland, and hundreds of farms, there is more progress to make. All of this begs the question whether the AgWQMP will succeed in attaining WQS as aggressively as possible. Will the rules generated from the AgWQMP be strict enough to get the goals accomplished in time? At this rate, this possibly could go on for many decades. This leads to the conclusion that there is a misinterpretation of the standards necessary to attain water quality standards to protect existing uses, such as sensitive salmonid species, which requires much more aggressive action in order to adequately protect them.**

Response – This comment will be forwarded to the Oregon Department of Agriculture. Also refer to the response to ***comments #G-7 through #G-9*** and ***#2-5***.

**(2-4) ODA Comment – Page 2-8, Agricultural Lands: The third paragraph of this discussion contains a typo in the first sentence. The acronym for Local Management Agencies is LMA, not LAC. The LAC is the group responsible for aiding in developing water quality plans and rules, while the LMA is the local group responsible for implementing them.**

Response* – The revision will incorporate this correction.

**(2-5) ODA Comment – Page 2-8, Agricultural Lands: Under the heading "DEQ Expectations" the Walla Walla plan and rules currently address the requirements of this TMDL. OAR 603-095-1740(3) specifically addresses riparian conditions.**

Response – The content of the referenced rule is as follows:

> **OAR 603-095-1740(3) (a)** Except as provided in OAR 603-095-1740(3)(b), effective January 1, 2006, streamside area management must allow the establishment, growth and maintenance of riparian vegetation to promote habitat and protect water quality by filtering sediment, stabilizing stream banks, naturally storing water, and providing shade consistent with the vegetative capability of the site.

While this rule is consistent with TMDL implementation, it does not lay out mechanisms, benchmarks, schedules, progress evaluation, etc. as called for in the TMDL WQMP. And while the plan does address some of these items, DEQ has not reviewed the plan and rules in light of the proposed TMDL. As specified in ODA/DEQ MOA, the draft TMDL provides a load allocation for agricultural nonpoint sources and DEQ will participate in the next plan review.

**(2-6) NWEA & NEDC Comment – P. 2-8, Existing Planning Framework and Expected TMDL Response, Nonpoint Sources, Non-Federal Forest Lands: The DEQ has not identified any impairment due to forestry. This seems contradictory with Table 1-1, which specifically lists Forestry as an existing pollutant source.**

**The ODF has not yet changed any practices or rules in response to any TMDL. How can WQS be met through current forestry practices if the ODF does not adhere to the requirements of the TMDLs? In addition, the EPA has concluded that the Forest Practices do not meet the goals of the Clean Water Act or the Endangered Species Act. EPA, Review of the December 2001 Draft Sufficiency Analysis: Stream Temperature, Letter 2 (Feb. 2001)(hereinafter cited as EPA Review of SA). The TMDL should direct the ODF with specific plans necessary for the ODF to adopt, and not just rely on the ODF to create their own solutions. This is analogous to letting the prisoner guard the other inmate.**

**In addition, the water quality standards must be flawed because they allow the ODF to utilize the Forest Practices Act to attain water quality standards even though the practices are known to be inadequate for that purpose, a point on which EPA agrees and states, —the preponderance of existing scientific knowledge and evidence indicates that forest practices under the FPA are likely to adversely affect the factors that elevate stream temperatures, contributing to WQS violations and adverse effects to beneficial uses such as salmonid**

**spawning and rearing." EPA Review of SA at 3. The water quality will deteriorate under the FPA, and to allow the ODF to manage its practices under these regulations proves flawed standards, as well as an illogical approach that the DEQ takes to attain water quality standards. A TMDL is an appropriate place to implement the gap-filling nature of standards, rather than to blindly apply criteria and rules that are inadequate to protect beneficial uses.**

**Currently, the FPA runs circles around the Clean Water Act due to the fact that forestry practices only have to try best management practices to achieve water quality standards. They do not have to actually achieve the water quality standards that the CWA dictates. If the ODF does not have to meet the water quality standards, we will not aggressively attain WQS for this TMDL or any other TMDL. The DEQ should have explicit timelines and milestones so that attainment of WQS is realistic.**

Response – 1st paragraph: State and private forest sources of stream heating have not been identified. There are small private in-holdings in the Umatilla National Forest along the South Fork. This forest area is a possible source of heating. Outside of the area of simulation and detailed assessment, where the effective shade curves of surrogate #2 apply, there may be nonfederal forestry heating that has not been investigated by DEQ. The potential is slight, because the land area of nonfederal forest in the subbasin is small. However, given that there is some heating potential, it seems prudent to leave forestry on the list of Table 1-1 as a possible source. This discussion should also suffice to explain DEQ's minimal expectation of the Oregon Department of Forestry (ODF).

Regarding water quality standards and the interagency TMDL approach, refer to the response to ***comments #G-6 and #G-7***, and to the Memorandum of Understanding between ODF and DEQ. The Oregon Forest Practices Act (FPA) allows for adoption of basin specific best management practices if there is clear evidence of resource degradation from activities on Non-federal forests. The ODF/DEQ MOU describes the process for attaining monitoring data to support such rulemaking. No basin specific rules have been adopted under FPA because of insufficient evidence to document resource degradation from Non-federal forests. In the Walla Walla subbasin, no thermal input from non-Federal forestry has been identified thus basin specific rules are not being considered at this time.

**(2-7) NWEA & NEDC Comment – P. 2-9, Existing Planning Framework and Expected TMDL Response, Nonpoint Sources, Federal Lands, Umatilla National Forest: This area is assumed to be in attainment simply from a DEQ visit to the site. No studies of this area were completed. How can a person tell the temperature of a river simply by looking at it? Studies and modeling should be included in the TMDL.**

**Harris Park - For an Area of Critical Concern that has excessive heat, the DEQ seems to feel they do not need to mandate anything to the BLM. No timeline for attainment exists or even instructions for what the implementation plan needs for attainment. The DEQ should not solely rely on the federal agency, it should also assist and guide the agency with stringent recommendations to assure that WQS will be attained because after completing the TMDL, the DEQ knows exactly what needs to be implemented.**

Response* – 1st paragraph: The South Fork of the Walla Walla River was assessed in detail (thermal infrared remote sensing, instream temperature data loggers, Rosgen Level II geomorphic inventories, shade measurements, vegetation identification and height measurements), up to Skiphorton Creek. USFS potential natural vegetation and existing vegetation mapping and classification is available for the entire forest. Temperature modeling is described in detail in Appendix A. Clearly this watershed is at its thermal potential. The USFS memo on page 74 of Appendix A, discussing protective management status and history, further documents this. The areas that are "assumed to be in attainment as well" (page 2-9 of the draft document) are the Mill Creek and North Fork watersheds. Here, DEQ visits merely confirm that vegetation is native and robust and stable channel features are intact. USFS mapping and management, historical and ecological knowledge are relied upon. The assumption of attainment was based in part on the fact that the Mill Creek and North Fork watersheds are under equal or greater protection status, compared to the South Fork. That said, DEQ has reviewed this comment with Umatilla National Forest personnel, and further examination has revealed that there has been historic forest harvest within the riparian areas of perennial streams of the North Fork and Mill Creek Watersheds, outside of the City of Walla Walla municipal watershed. {The text will be revised to indicate this, and that establishing potential should be addressed in the WQRP.}* Current management establishes a direction toward natural thermal potential. A memo from the USFS is appended to this comment/response document (Appendix B), describing the status of the North Fork and Mill Creek watersheds. {This memo will be added to the Technical Appendix and referenced in the main document.}*

2nd paragraph: Whether this area exhibits excess heating is still an open question – there are hot springs in the area which, if insufficiently accounted for in the assessment, could feasibly mask an anthropogenic heat signal. DEQ does expect WQRP to be submitted within 18 months of TMDL issuance and a time line for actions in the WQRP (Section entitled *Water Quality Management & Implementation Plan Guidance*). DEQ will work with BLM on this development and the WQRP is subject to DEQ approval as a TMDL implementation plan.

**(2-8) NWEA & NEDC Comment – P. 2-10, Existing Planning Framework and Expected TMDL Response, Nonpoint Sources, Milton-Freewater Levee & Nursery Bridge: One of the main problems in the subbasin does not get addressed; it is left to future contentious political debate with no timeline in sight. Again, the DEQ demonstrates the lack of aggressively pursuing attainment of WQS if it does not direct and mandate a response so that the TMDL can actually be accomplished. What must also be noted is that it seems as if nobody knows what to do with the levee. The DEQ expectations do not mandate situations, instead the statement —targeted planning scenarios, as feasible, should include," suggests that there is no directive to implement the necessary listed suggestions. The levee managers could come back and say that nothing is feasible. Instead, the DEQ should require certain aspects to be accomplished by using the term "shall' instead of "should,' because the DEQ is responsible for attainment of WQS. It should also ensure that the DMAs implement the necessary tasks that would improve water quality dramatically in the subbasin. There has been discussion concerning funding but no plans exist for what the money can do for an immediate improvement. More aggressive action must be taken with the levee before problems with the water temperature drag into the next century.**

**It was determined that it may be too costly to implement levee corridor widening, a beneficial measure to combat the temperature. Are any measures going to be implemented with the levee? Why are trees only proposed for the back slope of the levee? Should they be proposed for the entire levee length of 5.3 miles?**

**A concrete plan is needed for the levee and a timeline.**

Response – The reviewer accurately notes that a definite solution is not proposed for the Milton-Freewater Levee, and that optimal solutions are as yet unknown and hence no time line or mandate is provided. Mandates are typically not a first resort in Oregon's approach to nonpoint source pollution. The Levee situation is truly paradoxical – a clear problem where the obvious solutions are very expensive and there is more than one responsible jurisdiction. And the Levee would not simply be removed – it performs a key public safety function. The Milton-Freewater Water Control District manages the Levee, however, USACE provides the standards for management. For instance, no trees greater than 4 inches in diameter are allowed within the Levee.

DEQ's approach to this situation is one of the many reasons that the TMDL process is iterative. In the WQMP DEQ proposes the next step, in this case further evaluation and planning, and then follow through. It is important to note that there are other restoration processes in the subbasin that reinforce the TMDL process, some of which relate to the Levee. For example, USACE and the Confederated Tribes of the Umatilla Indian Reservation are preparing a flow restoration feasibility study that includes the Levee reach.

**(2-9) NCS Comment – Page 2-11 and elsewhere: Reference to water in what was dry river bed "unseen in nearly 100 years." (example, Appendix A, page 2-11 at top of page.) is not accurate. There is no mystery about how long the River bed was dry for the two - three miles. The fact should be stated, "dry at least since 1880". The United States Supreme Court in the Washington Oregon litigation found that that section had been dry since at least 1880. The last substantial salmon run was in 1905. The point is that by muddling the fact as to when the river was dried -up , people will start to connect dry riverbed ("nearly 100 years, subtract 100-1905 equal direct destruction of salmon run ). The salmon run was destroyed by Attalia Dam, at Reese, ("Nine Mile"), built in 1905, about 8 miles from the mouth of the River.**

Response* – Wherever this time frame is stated, in either document, it will be modified in the revised document to "since at least 1880."

**(2-10) NCS Comment – At page 2-11 *(page 1-5?)* of the Plan the fact is stated that the Walla Walla River divides in Milton-Freewater into the Little Walla Walla River and Tum-a-Lum Branch now Walla Walla River. You state "Perhaps half the water of the mainstem naturally exited at the Little Walla Walla River which in turn divided into branches".**

**Is not this speculation on your part? The Umatilla County Circuit Court found on the evidence presented to it that it was one-third to Tum-a-Lum Branch and two thirds Little Walla Walla River in the natural state in a case tried 1906. The U. S. Supreme court found that on the evidence presented to it in the 1930s it could not make a determination. Citations to these cases have been provided to you before and will be provided again on request.**

Response* – Yes, this is a rough estimate, as was that of the 1906 court case. Our finding was similar to the US Supreme Court's – that a precise determination could not be made. That said, it appears in Lieutenant Mullen's 1858 mapping that the Tumalum Branch was the largest branch, with the most vegetation, and the only one with cottonwood all along its length. Relict channel and valley form also suggests this (the lack of large channels, terraces, or valley walls associated with the Little Walla Walla River and its branches. The value of 45 CFS (At Nursery Bridge in Milton-Freewater in August) was selected as one of the increments that the Council had agreed to model, that is likely between 1/3 and 1/2 of the upstream river flow during August. Note that the available flow (multi-decadal August daily mean) at the lower most un-diverted reaches feeding the mainstem are 109 CFS at Harris Park plus 8.0 at the up-river North Fork gage. Lower increments were modeled as well, in part because of the uncertainty regarding proportions between the various branches, and that information is available in the Appendix. This uncertainty is described in both the main document and Appendix A. It is also noted that various increments of flow were simulated in support of the action by Irrigation Districts to decrease mainstem irrigation withdrawal and provide associated temperature and habitat benefits through increased mainstem flow.

{That said, to better acknowledge the uncertainty, this subject sentence will be modified as follows: Perhaps half, or more, of the water of the mainstem naturally exited at the Little Walla Walla River, which in turn divided into branches.}*

{DEQ agrees with the reviewer that it is important to state that the Little Walla Walla River and its distributaries were natural rivers and still exhibit natural functioning, particularly in their lower reaches. This is addressed in the response to ***comment #A-3***.}*

**(2-11) NWEA & NEDC Comment – P. 2-11, Schedule for Preparation of Implementation Plans: Using the phrase "tentatively target a 5 year cycle' proves that DEQ is not prepared to commit to anything in the TMDL and the WQMP. The schedule should set dates for review in order to adhere to the goals of the TMDL of attaining water quality standards at the earliest possible date through aggressive measures. The WQMP implementation must last as long as it takes to bring the waters back into compliance with water quality standards. Guidance at 11. A statement that the review is subject to available staff and priorities suggests to the public that this TMDL is not a priority, the implementation plans are not aggressive, and it creates uncertainties that the DEQ will not keep the WQMP going as long as necessary to attain water quality standards.**

**Because the watershed contains threatened or endangered aquatic species, the WQMP should move as fast as possible to enhance critical water quality conditions. We are curious whether waiting another 18 months from the final date of this approved TMDL, which could also take many more months, is waiting too long for plans from the DMAs. These threatened species require our assistance now due to the problems we have caused. To wait another 18 months, plus the additional waiting period for the plans to begin, can lead to many more years of degraded water quality that will further threaten the survival of the species.**

**The WQMP should include milestones designed to mark progress toward longer-term goals and objectives.**

Response – Refer to response to ***comment #2-1***.

**(2-12) NWEA & NEDC Comment – P. 2-11, Reasonable Assurance: Although the reasonable assurance section provides information regarding the DMA's involved in most of the affected lands in the area, there is no mention of reasonable assurance regarding the levee. Either this section was left out, or there is no reasonable assurance that the public can count on that the levee managers will do their part to attain WQS.**

**Other requirements in the reasonable assurance section that are missing are: —bad actor" definition and indication of how and by whom the implementation of management measures will be enforced if necessary to achieve WQS. Guidance at 13. Although the WQMP addresses the voluntary effort, which seems to prove local involvement success so far to date, there is not mention of addressing the potential need for enforcement should the voluntary effort not materialize. The high amount of voluntary efforts needed to attain WQS raises doubt in the success of the plan.**

**The DMA section lacks proper assurance because the ODF controlled by the FPA has never adopted any changes for a TMDL. The FPA requires only that the best management practices need to be implemented, not that actual water quality standards must be attained. Relying on the ODF for this TMDL or any other TMDL to help aggressively attain WQS portrays an image to the public that the DEQ is not going to attain water quality standards when forestry is involved.**

Response – Refer to response to ***comments #2-8 and #2-6***.

**(2-13) ODA Comment – Monitoring and Evaluation section, last paragraph: ODA should be included in the list of participants for monitoring. We are currently in the middle of a project to assess riparian conditions on agricultural lands throughout the state using remote sensing methods. The Walla Walla Subbasin is scheduled for assessment in 2006.**

Response* – The revision will incorporate this correction, and DEQ appreciates the timeliness of the remote sensing assessment for the Walla Walla Subbasin.

**(2-14) NWEA & NEDC Comment – P. 2-13, Monitoring and Evaluation: Again, the mention of roughly planning a 5-year review, if feasible, does not set up a monitoring program the public can rely on to ensure that the DEQ will actually monitor the progress of the WQMP. As DEQ has itself pointed out, —[a] high degree of commitment to ongoing monitoring of project effectiveness is a very important element of the WQMP … the failure to adequately fund and carry out monitoring is nearly as serious as the failure to implement the plan itself." Guidance at 15. Your own agency suggests that a monitoring plan is a crucial ingredient to the WQMP. The WQMP may fall apart if there is no monitoring. The public is counting on the DEQ to attain WQS in the watershed aggressively and adequately. This is why monitoring over time is necessary to ensure that the WQMP is on track to meet its goals.**

Response – A broad strategy for monitoring, consisting of efforts of various organizations, is outlined in this section. More detailed monitoring planning is deferred until after the designated management agency implementation plans are approved and until further state-wide strategy is developed. Note that funding for monitoring is also an issue.

**(2-15) NWEA & NEDC Comment – P. 2-14, Public Involvement: NWEA and NEDC appreciate the opportunity to comment on the Walla Walla subbasin TMDL, as well as for the extension to the deadline, ensuring that thorough and meaningful comments could be presented. We feel the involvement of public comments can lead to improvements where there may be deficiencies in TMDLs, which would only help to ensure that WQS would be attained.**

Response – DEQ acknowledges this comment.

**(2-16) NWEA & NEDC Comment – P. 2-14, Costs and Funding: The WQMP provides no estimates for the costs associated with plan implementation. This can be explained by the fact that no implementation plans from the DMAs exist, except the AgWQMP from the ODA. The costs involved are not identified in the WQMP.**

**Another aspect, mentioned above and that surfaces in the costs section, concerns the passive or active restoration. Again, this proves that no concrete plans exist on which the public may rely on. If either one of the passive or active plans are considered, maybe a cost estimation for each plan would have been necessary**

**to see what costs the DEQ would be looking at to then determine whether or not either plan would even be realistic.**

**Referencing the Umatilla TMDL costs shows the inadequacy of this section. The Umatilla TMDL has a complete rundown of predicted costs. When contrasted with this WQMP, it shows that the costs are missing completely.**

Response – The review correctly notes that costs cannot be identified until the implementation plans have been developed and until restoration methods are evaluated, for instance – passive v. active. The Umatilla TMDL lists the costs for various potential restoration scenarios and is considered an appropriate reference. Note that as in the Walla Walla WQMP, the Umatilla WQMP also defers actual cost estimates until specific strategies are determined.

**(2-17) NWEA & NEDC Comment – Additional Comments: The USFWS Bull Trout Recovery Plan for the Umatilla-Walla Walla Basin states that there are increased phosphate levels in the South Fork Walla Walla River on the BLM land. We would appreciate any information regarding this pollutant and whether a TMDL is necessary for phosphorous.**

Response – It is common for Blue Mountain streams to be naturally high in phosphorus concentration. Threshold ecologically protective concentrations are generally based on watershed specific modeling relating phosphorus to algal growth and associated dissolved oxygen and pH cycling. Modeling in the Umatilla (reference: Umatilla Basin TMDL) and John Day (unpublished DEQ regression modeling for pre-TMDL evaluation) Basins indicates that temperature and light (and nitrogen in the John Day), rather than phosphorus are the limiting factors for algal growth. That is, algae would be mitigated by less sunlight and/or nitrogen before it could be influenced by phosphorus reduction. In the Walla Walla, there is no 303(d) listing (in Oregon) for phosphorus. A phosphorus TMDL is not planned at this time for the Oregon part of the subbasin.

Washington Department of Ecology is currently evaluating pH issues on the mainstem Walla Walla River and its Washington tributaries. The tributaries were identified as nitrogen-limited rather than phosphorus-limited and the mainstem evaluation is still pending. DEQ is following this effort to better understand whether phosphorus or nitrogen reductions are needed in Oregon, in order to support downstream attainment of water quality standards.

**(2-18) NWEA & NEDC Concluding Comment – The development of a TMDL is difficult and time consuming but it does present the DEQ with the opportunity to make significant strides toward maintaining the health of Oregon's waterways. Although DEQ is identifying the sources of the increased temperature and making some recommendations on how to mitigate the pollutant, the TMDL and WQMP are not adequate to ensure the attainment of WQS. In fact, what DEQ has done with this TMDL and WQMP is to assure the public that very little will be done in response to this TMDL. First, everything has been designated to the DMAs such that we do not know the implementation plans nor does the TMDL provide any concrete guidance as to what those implementation plans must look like to ensure that WQS will be met in a reasonable time frame. Second, with so many procedural and substantive sections missing throughout the document, this draft version requires much more to be added to the final version. Finally, we do not feel that the accurate natural thermal potential was utilized for this TMDL, a crucial aspect for setting the temperature goals. The TMDL claims that the natural thermal potential supersedes the numeric biological criteria. This thermal potential has many flaws because it was based on the system potential using minimized human activity, which contradicts the water quality standards. The rules require that if estimating the natural thermal potential, it must be done without any human activity. Then, the data will reveal whether the natural thermal potential is higher than the numeric criteria. Either the standards are flawed or the DEQ has not interpreted the standards correctly. The TMDL does not explain which minimized human activities were left in the modeling and it is assumed that what was left is the levee since there is nothing that can be done to it right now. If so, the levee, which causes the major increase in temperature in the river, cannot be used in accurately estimating the natural conditions for natural thermal potential modeling. These data should not be used. The TMDL needs to be revised to correctly estimate the natural thermal potential, or revised to meet the numeric criteria. The NWEA and the NEDC urges the DEQ to revise the WQMP to provide for more concrete and enforceable implementation that will lead to the attainment of WQS.**

Response – Each point here has been answered elsewhere in this response document. While DEQ appreciates the concerns of NEDC and NWEA, DEQ does not agree with the following points (DEQ response in parentheses):

- **very little will be done in response to this TMDL** (in fact, TMDL implementation has already commenced)
- **many procedural and substantive sections are missing** (by design, the implementation plans follow TMDL issuance – DEQ believes the draft document contains all necessary sections)
- **accurate natural thermal potential was not utilized for this TMDL** (the assessment and modeling of potential is the best practicable at this time)
- **natural thermal potential should not supersede the numeric biological criteria** (see prior responses)
- **estimating the natural thermal potential must be done without any human activity** (not all human activities cause warming - by simulating minimization of human related warming, as quantifiable, DEQ and collaborators have produced the best available estimate of a natural thermal profile)
- **The TMDL does not explain which minimized human activities simulated and it is assumed that natural conditions were not simulated for the Milton-Freewater Levee** (in DEQ's view, it is clear in the Technical Appendix that increased vegetation, channel narrowing and increased flow were modeled as the potential condition within the Levee)
- **the WQMP should be revised to provide for more concrete and enforceable implementation that will lead to the attainment of WQS** (through time and collaboration, DEQ's aim is to achieve reasonable assurance of implementation, as feasible, with this WQMP as the initial foundation)

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# Comment & Response – Appendix A

**(A-1) NCS Comment – At page 14 of the Appendix where you note the "approximate" order of decreasing flow, it would if you are referring to the critical temperature period of mid July-mid August probably be more accurate to place Mill Creek after the East and West Branches of the Little Walla Walla River. At that time of year, with most of its water being diverted down Yellowhawk, Mill Creek's only flow is from springs below the Yellowhawk diversion and there is some irrigation use between the diversion and its mouth.**

Response* – The revision will incorporate this correction.

**(A-2) EPA Comment – Page 55, Section 3.2.2.2: Because sinuosity is not a typical or simple measurement, it would be helpful to have a brief explanation of how the value used to measure it is derived. It is defined on page 62, but a note here would be helpful.**

Response* – The revision will incorporate this recommendation. Sinuosity was measured by tracing (digitizing) the stream and valley centerline on 1-m pixel digital orthophotoquads in ArcView 3.2, through 2-3 km continuous segments of valley length (specific segment length was chosen based on preference for uniformity), and dividing stream by valley line lengths.

**(A-3) NCS Comment – Page 80 of Appendix A, 3.5 "Potential in-Stream Flow". Part of the scenario here is an August flow of 100 cubic feet per second at Nursery Bridge in the Tum a Lum (Walla Walla River) below the natural Little Walla Walla River diversion. This of course is an amount of water which sometimes would exceed the entire flow of the River, and by magic eliminates the natural division of the River upstream from what is now Nursery Bridge into what was known as the Little Walla Walla River and Tum-a-Lum Branch. This 100 CFS "scenario" at Nursery Bridge and eliminating the natural division up stream of that is not the result of "collecting facts through observation and experiment."**

Response* – Refer to response to ***comments 2-3b*** and the explanation in the draft document beginning on page 1-5, {shown below with modifications to address this and other comments}:*

> "Another complexity in resolving flow and the temperature TMDL is found in defining "natural" flow given that the drainage pattern of the Walla Walla River has been modified. In brief, the Walla Walla River divided historically as it entered the Milton-Freewater area (Figure 1-3). Perhaps half or more of the water of the mainstem naturally exited at the Little Walla Walla River (Distributary), which in turn divided into branches. All branches ultimately reunite in Washington. The northeastern most channel, the Tumalum branch, was evidently the largest. In the late 1800's, the Little Walla Walla River was head-gated, diverting the winter-spring channel-forming flows down the Tumalum branch, thus enlarging it to form the modern mainstem. Much of the Little Walla Walla River network still exists and serves as part of an irrigation system during the growing season. The lower reaches in particular are fed by ground water and function largely as natural streams.
>
> Accordingly, two flow profiles were modeled to characterize natural ~~flow~~ heating for the mainstem below Milton-Freewater. First, forty-five cubic feet per second at Nursery Bridge was chosen to represents the historical summer flow in the Tumalum branch. This is a rough estimate based on modern channel dimensions and historic mapping (Mullan, ~~1985~~1858)~~suggesting that nearly half of the mainstem flow above Milton-Freewater did not leave the main channel at the Little Walla Walla River~~. Second, one-hundred cubic feet per second at Nursery Bridge is the approximate potential of the system without withdrawal at the Little Walla Walla ~~Diversion~~ River. ***This scenario is not the historic natural flow*** (emphasis added), however, in the enlarged ~~flood control~~ mainstem 100 CFS ~~more closely approximates~~ leads to a closer approximation of the natural width to depth ratio of summer low flow – and thus a more natural solar heating rate~~condition,~~ absent channel form restoration. Channel restoration would require resumption of the winter/spring channel-forming flows. Both scenarios were simulated for potential with lower width/depth channels than present, but still assuming channel geometry resulting from mainstem aggregation of channel-forming flow."

DEQ recognizes that the Tumalum Branch, now the mainstem, below the Little Walla Walla River diversion, is unlikely to have carried 100 CFS in August, even in pre-European times. However, because the mainstem channel has been enlarged to accommodate the full un-diverted flow during the winter/spring high runoff, unnatural summer heating would occur in this reach (high width/depth during low flow) at natural flow levels. DEQ includes both as possible targets, and encourages increased summer flow and improved channel morphology, as feasible, to provide the most natural water quality, as called for in the Oregon temperature standard. It is encouraging that there are efforts underway (feasibility study) to increase mainstem flow and preserve distributary flow.

**(A-4) NCS Comment – Page 81: For parallel language, and better understanding by the reader, the Mill Creek- Yellowhawk division should be referred as a "Diversion" as the Little Walla Walla River is referred to as a "Diversion". The physical function of both headgates is the same except that in periods of low water almost all of Mill Creek is sent down Yellowhawk.**

Response* – In the revision, a parenthetic note will be added on page 81 to clarify that Yellowhawk Creek, like the Little Walla Walla River, is a natural distributary that also is controlled for the purpose of irrigation.

**(A-5) NCS Comment – At page 82 of Appendix A in further explanation of the 100 CFS scenario it is stated in bold type that:**

**"It is also important to recall that the existing Walla Walla mainstem is one branch of several that once spread across the valley floor (Section 1.5.1). Since the late 1880's the aggregate flows of these branches has been routed into the Tum-a-Lum Branch (the existing mainstem)."**

**The first sentence is of course correct. However as to the second we cannot believe our eyes. What happened to "Walla Walla" meaning "many waters"? Why the dry stretch of 2 miles above Nursery Bridge since at least 1880 until 2002? Why did not someone tell the United States Supreme Court or the Oregon Courts this fact.**

Response* – Yes, this is an error in the draft document. It was intended to say "It is also important to recall that the existing Walla Walla mainstem is one branch of several that ~~once~~ spread across the valley floor (Section 1.5.1). Since the late 1880's the aggregate flood-season flow~~s~~ of these branches has been routed into the Tumalum Branch (the existing mainstem). The branches have been modified to serve as an irrigation system during the growing season." The revised document will be modified accordingly. And on page 11 of the draft, the first sentence of the second paragraph will be corrected to read: "~~Historically, t~~The river diverge~~s~~d into several branches at Milton-Freewater…"

# Appendix A:

# Text of Comments as Received

(in the order received)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
OREGON OPERATIONS OFFICE
811 S.W. 6th Avenue
Portland, Oregon 97204

Reply To
Attn Of: OOO

June 27, 2005

Mr. Don Butcher
Oregon Dept of Environmental Quality
700 SE Emigrant, Ste. 330
Pendleton, OR 97801

Dear Mr. Butcher:

The Environmental Protection Agency's (EPA) comments on the draft temperature Total Maximum Daily Load (TMDL) and Water Quality Management Plan (WQMP) for the Walla Walla Subbasin, released for public comment on May 2, 2005, are discussed in this letter.

This draft document presents TMDL and WQMPs for the Walla Walla Subbasin and the analysis utilized in developing the TMDL. In general, EPA finds the information presented in a clear and complete format and inclusive of all the statutory and regulatory requirements. The following comments provide some suggestions on minor changes which would clarify the documents.

EPA wishes to acknowledge the excellent work in developing this TMDL. Oregon Department of Environmental Quality (ODEQ) presents a complicated array of information and logically compiled it to establish a quantitative loading capacity. In addition EPA would like to acknowledge the effort that ODEQ put into coordinating with Washington State Department of Ecology so that the entire subbasin was considered in the TMDL. This cooperation resulted in a more complete analysis and better characterization of temperature issues in the subbasin. EPA supports this interstate coordination work. This TMDL should serve not only to guide restoration in the Walla Walla Subbasin but also as a model for future TMDL development.

Following are comments on specific elements of the TMDL and WQMP:

**TMDL**

The boxes, such as those on pages 1-3 and 1-5, are very helpful to the reader. They are a useful way to highlight important information.

p. iii - summary, 3rd paragraph - For clarity, a sentence should be added which states "future point sources are considered through the reserve allocations." This would eliminate concern about limiting new sources.

p. 1- 4 - Figure 1-2 - This figure needs further explanation. The figure shows that stream temperatures at the mouth will exceed current conditions when the channel and vegetation potential are met, with 100 cfs at Nursery Bridge and tributary enhancements have been completed. This does not seem correct.

p. 1-8 - first bullet on page, end of first line - "nor" should be changed to "not"

p. 1-9 - (d) Loading Capacity - Technically, the loading capacity only refers to the total loading capacity (LC) of the system. The divisions of the LC are allocations. It is confusing when LC is used for the parts and then later stated as allocations. This section would be clearer if the equations were stated thus:

LC = Wasteload Allocation (WLA) + LA + MOS + RC.

This same terminology change should be carried forth to Table 1-5, p. 1-10.

p. 1-10 - Table 1-5 - The total LC should also be included in this table (52.9 MW/day)

p. 1-13 - (g) Wasteload Allocations, 2nd paragraph – This paragraph states what National Pollutant Discharge Elimination System (NPDES) permit facilities exist in the Oregon portion of the subbasin and their current permit status. For consistency it should be noted in this section:

- That this paragraph should conclude with a statement such as "Thus, the source was not given a WLA."
- Permit numbers for the two NPDES permits discussed should be included.
- This paragraph raises the question "Is the trigger for a permit the annual fish production or is it the size is the size of the discharge?" This paragraph states that if fish production is less than 20,000 lbs/year then a permit is not required. Six paragraphs later it states that the possible expansion could result in an additional 3 cubic feet/second discharge and pollutant load that would require a permit.
- Weston does not discharge during the summer months and is thus not given an allocation. (Even though this is said in the following section, it would be good to state it in this summary).
- Future point sources may access the reserve allocation (as is stated in the following section). For clarity this could also be stated here.
- Something should be said about the Milton-Freewater Waste Water Treatment Plant, just to indicate it was not overlooked. Since its wastewater must go somewhere, note where that is.

p. 1-14 - 1st paragraph - It should be noted that ODEQ has determined that, due to facility size, this facility no longer requires an NPDES permit.

p. 1-14 - 3rd paragraph - ODEQ ~~can~~ designate WLAs to point sources regardless of whether the facility operator requests an allocation. It may be more accurate if the first sentence were modified to read: "Because the facility is not currently regulated under the NPDES program, the function of..."

p. 1-14/15 - City of Weston - The TMDL does not currently have a season of application, thus it could be assumed it applies year round. If this is the case, a WLA of zero applies at all times at Weston. If this is not the intent, the TMDL should be written such that it specifically defines the season of application and notes that the WLAs only apply during that period. From the text, it appears this would be dependent on the bull trout criteria and thus exceedences occur between May and October.

p. 1-19 - last sentence of second paragraph - This sentence would make better sense if the "and" was changed to "an" with a comma before it.

p. 1-19 - "surrogate measure #1" section; last line -This sentence would be clearer if "than" was

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replaced with "that".

p. 1-25 - section (i), 2nd paragraph – This paragraph states implicit margins of safety used in this TMDL. It should be noted in this section:

- Stating that "natural disturbance was not accounted for," does not appear to be a conservative assumption. Please explain why omitting a temperature increasing attribute from the model constitutes a margin of safety.

- There are two sentences regarding groundwater inflow in this paragraph, but they are separated by a sentence about wind speed. For clarity the groundwater inflow sentences should be kept together.

p. 1-25 - section (j) - It might be desirable to mention here or in the "Water Quality Standard Attainment" section that though the modeling and allocations are focused on quantifying and addressing summer season temperature impairments, the allocations will also address spring and fall season impairments.

p. 1-26 - section (k) 2nd and 3rd paragraphs - The document states that the 0.3 degree C reserve capacity is being held for both future non-point and point-source loadings. The latter paragraph indicates there would be a future NPDES permit process to utilize reserve capacity. There is no mention of how non-point sources would be evaluated or monitored to see if they are using up reserve capacity. If there will be non-point source monitoring to see how much reserve capacity actually exists at that future date when an NPDES permit would be issued, it would be good to state this.

**Appendix A**

p. 55 - 3.2.2.2 - Because sinuosity is not a typical or simple measurement, it would be helpful to have a brief explanation of how the value used to measure it is derived. It is defined on page 62, but a note here would be helpful.

**CONCLUSION**

EPA commends you for the efforts you have made to date and look forward to the submittal of the final TMDLs in the near future. If you have any questions regarding comments on the draft TMDLs, please contact me at (503) 326-3280.

Sincerely,

Helen Rueda
TMDL Project Manager

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Oregon
Theodore R. Kulongoski, Governor

Department of Agriculture
635 Capitol Street NE
Salem, OR 97301-2532

July 6, 2005

Don Butcher
Oregon Department of Environmental Quality
700 SE Emigrant, Ste. 330
Pendleton, OR 97801

Dear Don:

**RE: Comments on the Draft Walla Walla Subbasin Temperature Total Maximum Daily Load and Water Quality Management Plan `Submitted by the Oregon Department of Agriculture**

The Oregon Department of Agriculture (ODA) appreciates the opportunity to review this draft Total Maximum Daily Load (TMDL), and supporting documents. In general, we found that this proposed TMDL is reasonable in its scope and approach to setting pollutant loads for temperature. The methodology described is comparable to other temperature TMDLs written by DEQ and approved by the U.S. EPA. We do have a few specific comments on the TMDL.

**Page 1-23, Table 1-8:** The "Measures of Progress" listed in the table are definitely valuable indicators of stream restoration. It is not clear of the value of these measures towards meeting the TMDL, however. As stated in the text on page 1-22, "These (measures of progress) do not have the status of a TMDL load allocation or TMDL surrogate." Is DEQ working towards using these measures as surrogates? From our understanding of HeatSource and some other models (notably BASINS) there may be a potential to back-calculate other variables - such as potential shade - if the measures identified in Table 1-8 are known. We would appreciate DEQ evaluating the potential for using these measures as surrogates.

**Page 2-8, Agricultural Lands section:** The third paragraph of this discussion contains a typo in the first sentence. The acronym for Local Management Agencies is LMA, not LAC.

The acronym LAC, referred to again later in this section, stands for Local Advisory Committee. The LAC is the group responsible for aiding in developing water quality plans and rules, while the LMA is the local group responsible for implementing them.

Under the heading "DEQ Expectations" the Walla Walla plan and rules currently address the requirements of this TMDL. OAR 603-095-1740(3) specifically addresses riparian conditions.

**Page 2-13, Monitoring and Evaluation section, last paragraph:** ODA should be included in the list of participants for monitoring. We are currently in the middle of a project to assess

riparian condition on agricultural lands throughout the state using remote sensing methods. The Walla Walla Subbasin is scheduled for assessment in 2006.

Thank you again for the opportunity to review and comment on the Walla Walla Subbasin TMDL. Please contact us if you have any questions or comments on our review.

Sincerely,

Ray Jandl, Assistant Administrator
Natural Resources Division
PH (503) 986-4713
FX (503) 986-4730

Northwest Environmental Advocates (NWEA)
P.O. Box 12187
Portland, OR 97212

&

Northwest Environmental Defense Center (NEDC)
10015 S.W. Terwilliger Blvd
Portland, OR 97219

July 12, 2005

Don Butcher Oregon Department of Environmental Quality 700 SW Emigrant Ave Suite 330 Pendleton, OR 97801

Re: Walla Walla Subbasin Stream Temperature Total Maximum Daily Load (TMDL) and Water Quality Management Plan (WQMP)

Dear Mr. Butcher:

This letter constitutes the comments of Northwest Environmental Advocates (NWEA) and the Northwest Environmental Defense Center (NEDC) on the Walla Walla Subbasin Total Maximum Daily Load (TMDL) and Water Quality Management Plan (WQMP). In our opinion, the TMDL suffers from serious flaws that stem from the Department's inadequate temperature standards. The WQMP proves that the State of Oregon does not intend to take actions necessary to protect the beneficial use of salmonids in the streams of this basin. Essentially, the WQMP does not contain sufficient information to determine whether it will be a suitable plan to attain and maintain water quality standards. If DEQ continues to hand off control of implementation plans without much guidance or requirements to the Designated Management Authorities (DMAs), its TMDLs will continue to be ignored. DMAs that choose to follow the minimum requirements of their own administrative rules and therefore do not meet the requirements of the Clean Water Act renders the exercise pointless. To prepare a plan that is no plan at all is a mockery of taxpayer resources. More importantly, it is unlikely that water quality standards will ever be reached in the Walla Walla Subbasin.

Specifically, the Oregon Department of Agriculture's SB 1010 Agricultural Water Quality Management Area Plan (AgWQMP) is one of the weakest portions even though it is one of the greatest sources of water quality degradation in the subbasin. In addition, the WQMP does little to address the Milton-Freewater Levee, identified as the major cause of the high temperatures in the river due to the stream widening and loss of riparian vegetation.

In the end, a TMDL and WQMP should contain a nearly flawless sequence of analytical steps directed at restoring water quality, beginning with a comprehensive assessment of the condition of the watershed and concluding with an effective implementation plan to reduce pollution inputs to the degree necessary to meet WQS. Unfortunately, the Walla Walla Subbasin TMDL has flaws that the WQMP magnifies. These flaws prevent the attainment of WQS. The water quality standards must either be flawed, or the interpretation of the standards must be flawed, because the DEQ and the EPA never intended them to be applied in such a way that salmonid will not receive adequate protection.

TMDL Background and Summary

The Background section is flawed because it fails to address the role of stream flows in meeting water quality standards and in providing full protection to beneficial uses. Moreover, no discussion of the fundamental reason why a TMDL is being done and why it should be implemented fully – namely, the specific salmonid species and their precarious status – the TMDL fails as a public information document. Given the State‘s disinterest in controlling nonpoint sources, demanding restoration of damage caused by Army Corps of Engineers‘ projects, and restoring stream flows, the Department relies heavily, if not exclusively, on the goodwill of citizens to implement the TMDL. The document fails to provide a compelling reason for the restoration.

Part One - TMDL

P. 1-3 (b) Pollutant and Target Identification

There is no mention of the actual temperatures of the river. Instead, the TMDL presents a simulated graph of a single day in August. The actual temperature data is not discovered until page 101 of the Appendix, a maneuver that seems to hide the actual data from the reader.

A TMDL must demonstrate that it will achieve WQS, which include, in addition to the criteria, the requirement that designated and existing uses be fully protected. A TMDL is the appropriate document to resolve any failures of the standards. In this TMDL, DEQ fails to do so; instead, it applied its inadequate numeric criteria and exemption language.

First, either contrary to its own rules or in conformity with an unwritten understanding of what its rules are actually supposed to mean, DEQ has invented a new methodology – termed the system potential – which gives the best estimate of —minimized“ human disturbance. This methodology is incompatible with the requirements for estimating the natural conditions. —Natural Thermal Potential: means the determination of the thermal profile of a water body using best available methods of analysis and the best available information on the site-potential riparian vegetation, stream geomorphology, stream flows, and other measures to reflect natural conditions.“ OAR 340-041-0002(39) (2003). —Natural Conditions: means conditions or circumstances affecting the physical, chemical, or biological integrity of a water of the state that are not influenced by past or present anthropogenic activities.“ OAR 340-041-0002(38) (2003) (emphasis added).

An estimate of natural thermal potential requires the use of natural conditions, which means no human activity in the modeling estimates. Using the system potential with —minimized“ human influences is not the same thing as natural thermal potential. The DEQ never mentions which minimal human disturbances remain in the natural thermal potential estimate, leaving the reader even more confused with the system potential methodology. We are assuming the levee remains in the estimation because Figure 1-2 still includes the levee with the estimated improved vegetation and channel potential. Keeping the levee in the estimate greatly influences the applicable temperature criteria because the levee has a significant impact on the temperature. An accurate natural thermal potential that reflects no human activity would not include the levee. The DEQ‘s inclusion of a —minimal“ human influence, contradicts the requirements of the water quality standards. It is a mistake to include the levee because natural conditions should not include a levee that runs over five miles. The higher natural thermal potential temperature can only be used to supersede the numeric criteria if the temperature is warmer without any human activity.

According to DEQ, —”natural conditions‘ are those pollutants that are present in the State‘s waters that are not attributable to anthropogenic activities.“ Letter dated 2/4/04, from Michael Llewelyn, Administrator Water Quality Program, DEQ to Randy Smith, EPA Region 10 Director Office of Water. The EPA also defines natural conditions as, —surface water untouched by human-causing pollution or disturbance … modeling is a mathematical tool used to estimate water quality conditions of a water in absence of human disturbances.“ EPA Region 10, Office of Water and Watersheds, Principles to Consider When Reviewing and Using Natural Condition Provisions, Executive Summary 3 (April 1, 2005) (hereinafter cited as Using Natural Conditions). Neither of these guides state that the natural conditions are estimated with minimal human activity, such as a levee, they are only estimated with zero human activity. According to the standards, natural thermal potential can only be used when the temperatures are higher than the biological criteria under natural conditions without anthropogenic activity in the estimate.

Conditions not considered natural for modeling purposes, the EPA states, —water quality that has been or is currently impacted by industry or is substantially impacted by other human activities, e.g., urbanization, agriculture, grazing, timber harvest, etc…permanent anthropogenic landscape changes that may not be feasible to reverse, e.g., dams.“ Using Natural Conditions at 4.

Furthermore, there are procedural problems if the DEQ chooses the natural thermal potential. There needs to be a process to depict the rational connection between the facts found and the choices made when choosing the natural thermal potential as the criteria to supersede the numerical criteria. Instead, there is simply a graph and a sentence saying that the numeric criteria are unattainable. The data should show the effects and details of the improved vegetation and channel potential and why the temperature of the river remains warmer than the numeric criteria. Instead, we feel that the DEQ has not accurately estimated the natural thermal potential because these explanations are missing. The choice must also be scientifically defensible. In this case that seems impossible because the DEQ still included in the estimates minimized human activity instead of no human activity. This influences the temperature estimates and can provide incorrect natural thermal potential.

It is unclear what the DEQ can and cannot achieve through its modeling. It speaks of —conditions approaching natural," without any explanation of the relevance of such a status. TMDL at 1-3. It notes the practical difficulties of determining natural conditions, specifically groundwater and sinuosity, yet claims that the high temperatures derived from the modeling exercise are —natural" and that they contain an implied margin of safety. It is essential to make the correct choice of a replacement criteria using the natural conditions exemption given that the temperatures will not protect the designated uses.

Moreover, the TMDL is not clear on when and where the criteria apply. For example, in this section it states that at all —other" locations or —outside the season of thermal potential assessment" the —other criteria" apply. TMDL at 1-3. It appears that the TMDL applies throughout the subbasin but nowhere else. This ambiguity must be corrected. In addition, it is unclear when the derived criteria apply, what it means for the —other" criteria to apply, and why this combination provides full support to designated and existing uses. Further, are biologically based criteria not attainable for the entire Walla Walla River or just the area by the levee? If other parts of the river can meet the biological criteria then the natural thermal potential cannot supersede. Finally, if these high temperatures are, in fact, reflective of natural conditions, the DEQ must explain how the salmonids were able to be fully supported in these waters. In other words, there must have been some level of complexity and refugia that allowed this result. Without requiring such mitigating factors to the high temperatures, the choice of what constitutes the standards in this TMDL do not provide full support and therefore fail the test of what constitutes an acceptable TMDL.

P. 1-4 <u>TMDL Figure 1-2 compared to Fact Sheet Figure 1</u>

The temperature graph of the "Measured Temperatures' and the "Estimated Natural Temperatures' has found its way into the Fact Sheet, but not into the TMDL. The TMDL has a graph that shows an August 15, 2002 Simulation with three different Vegetation and Channel Potential simulations. It seems as if the two graphs are meant to illustrate the same data. Why is it that the fact sheet uses such a simple graph to show that the graph intends to correspond with the claim that the natural thermal potential is only what can be obtained, yet the TMDL figure does not have this simple explanation? Neither graph depicts what the biological numeric criteria should be for the rivers in order to show the layperson a comparison of the proposed higher natural thermal potential temperature contrasted to the biological numeric criteria that will not be adopted. The graph should also depict where the natural thermal potential will be used. Figure 1-2 maps out one day in August in 2002, and does not give any explanation whether the temperature that day could possibly have been higher than usual. Because the river is exposed to high temperatures from July-September, picking only one day in August may not accurately reflect the entire hot period. The graph also does not indicate whether the Seven Day Average Maximum Temperature (7DAMT) was utilized. Utilizing the 7DAMT would provide more reliable data because it would ensure that the day chosen was not atypically hot.

Human Use Allowance

The TMDL also states that there is room for additional pollution from future point sources. This is an absurd result when one considers the high temperatures that the TMDL has concluded are natural even though they are not protective. Any additional thermal load, particularly measured after complete mixing, as DEQ rules require, will nonetheless be additional heating that will cause local stress on aquatic life.

Since the Department has no proposed method of identifying or regulating the 0.3°C of incremental change, it might as well set the criterion even higher rather than engaging in the fiction that it will be monitoring the increment. This fiction undermines the integrity of the standards and the TMDL.

In addition, any definition of an allowable warming that sets the level as high as that proposed by the TMDL is unacceptable. This definition will allow for an unlimited warming of the waters.

P. 1-5 Addressing Stream Flow

The natural thermal potential is defined here, but the definition for natural conditions remains absent. If present, the natural conditions definition would contradict the new minimized human activity methodology versus the no human activity statutory rule. Moreover, after quoting the definition of natural thermal potential, DEQ goes on to say that flow effects —aren't readily described in terms of target pollutants." TMDL at 1-5. What is this supposed to mean? Granted, flow is not a pollutant but what else distinguishes it from the elements of a natural condition listed in the Department's own rules? Making allocations to everything except flows results in a TMDL that suggests that standards could be met and threatened and endangered species would be protected without restoring sufficient flow. This is false. Without addressing flow explicitly and clearly, the DEQ suggests that private and public entities could invest in expensive restoration and provide full support, something that is factually incorrect. This is an absurd hole in the TMDL.

Moreover, the discussion of the two flow profiles is unclear. We understand that a flow profile was chosen to approximate the natural width to depth ratio but it is unclear what the natural conditions actually were. Whatever weaknesses exist with regard to this TMDL on the flow issue jeopardize the voluntary actions that DEQ encourages to increase flows. This TMDL should leave nothing to the imagination with regard to how much and when the flows need to be restored in order to provide full support to beneficial uses and to provide sufficient pollutant dilution.

P. 1-8 (c) Water Quality Standards and Beneficial Uses

This section on Water Quality Standards fails to reference the antidegradation policy. It sets the stage for the TMDL to ignore significant issues such as whether it will protect the most sensitive beneficial uses, whether it will protect existing uses, and whether it will meet the criteria. This section should discuss the narrative criteria relating to threatened and endangered species. In other words, the TMDL should contain a "gap analysis' to evaluate the role of antidegradation, beneficial use support, and narrative criteria.

There is also no mention of identifying or protecting cold-water refugia. The standards must be flawed in requiring the protection of cold-water refugia that the DEQ itself cannot even identify to protect. Or, there has been a misinterpretation of the standards requiring protection of cold-water refugia because nothing in this TMDL addresses this critical issue.

Unfortunately, the TMDL's analysis of beneficial uses is simplistic and undermines the analysis of the entire document. This is the first place in the TMDL when it becomes apparent that the Department is ignoring the legal definition of a water quality standard; water quality standards consist of uses, either designated or existing, and criteria to protect the use. Specifically, it omits reference to the antidegradation policy. This policy requires protection of all existing uses, those that have been attained at any time since 1975, including uses actually being made, regardless of the quality level and uses for which the level of quality has been attained. While the seasons of salmonid spawning are identified, there is no analysis to suggest whether the temperature TMDL that focuses on the critical high temperature conditions of the summer can protect the sensitive use. It seems too easy to just say the temperature will not be attainable and to move on. The DEQ must protect the existing uses.

This section does not identify any cold-water amphibians that may be more sensitive to the pollutants evaluated in the TMDL. And, nowhere in the TMDL does it state the extensive effects the temperature will have on migration and spawning behaviors. As the DEQ is aware, the more these life cycle activities are constricted in time and place the greater the negative impact over time on the remaining populations of fish and their all-important genetic diversity. It is imperative that the DEQ protect the existing uses; if they adopt criteria that does not protect all life stages of the salmonids they will be violating water quality standards

Nothing is mentioned regarding "natural events' that may interfere with or delay attainment of the TMDL. According to the Walla Walla Basin Outlook Report, the stream flow for 2005 will be 73% and shortages can be expected. Less stream flow will definitely influence the potential estimates utilizing stream flow modifications, not to mention the existing stream flow and how this will impact fish migration, agriculture and private water use. In addition, there should be some emphasis on the need to build in resistance to high-energy flows so that natural events have less of a likelihood of preventing timely attainment of standards.

The reference to the bull trout criteria for spawning and rearing, which is wholly inadequate to protect the species, receives no attention. The rationale that the criterion is protective is predicated upon the notion that streams will actually be colder than the criterion yet the TMDL does nothing to demonstrate this will be true. In fact, there is no discussion of whether the streams ostensibly covered under this temperature TMDL meet or exceed the bull trout criteria let alone what is happening during the times when the bull trout criteria apply to the streams. The bull trout require cold temperatures for spawning. Designating a rearing 12ºC temperature for spawning that requires a 9ºC or colder temperature indicates flawed standards.

Finally, the discussion on natural temperature profiles superseding the numeric criteria demonstrates the nonsensical nature of the standards. A natural profile includes temperatures well below the numeric criteria whereas DEQ only allows for temperatures that are at the criteria or higher. There is nothing natural or protective about this approach. This is particularly absurd given DEQ's position that the standard is protective precisely because the temperatures will be cooler than the criteria, a phenomenon its rules do not protect. Likewise, the TMDL states that the natural temperature supersedes the numeric criteria except at times and locations where it has not been assessed. However, it fails to identify specifically where and when this is, other than stating it is —cool season and tributaries other than the modeled part of the South Fork." What

cool season? What tributaries exceed the criteria?

Page 1-9. Loading Capacity

As DEQ points out, a TMDL is the greatest amount of loading a waterbody can receive without violating —standards.“ It would be useful if, in its evaluation, the Department recalled that the issue concerns meeting standards not using the TMDL to determine alternative numeric criteria. As far as future sources, the TMDL incorrectly suggests any can be allowed. Given the fact that no credible biologically based criteria will be met by this TMDL, DEQ cannot sanction any increased heating of its streams, either above naturally cooler conditions or above naturally hot conditions. To allow for further heating above the already hot temperature would prove that the DEQ has misinterpreted the standards or the standards are flawed because the salmonids cannot take any further heating since the temperature already remains above biologically necessary levels.

Page 1-10. Excess Load

This brief discussion of excess load, which assigns blame for 51 percent to humans, is not clear. First, given that the TMDL re-sets the criteria at natural or some approximation of natural, it is unclear what is the remaining 49 percent of loading. Second, this discussion does not explain how water flows are evaluated to determine the effects of human activities.

Page 1-11. Pollutant Sources and Jurisdictions

DEQ does not explain why it determines the Umatilla National Forest to be at system potential vegetation. Has it not been logged and are there no logging roads? If so, this should be made explicit.

Given the discussion of the stream losing water, rather than gaining groundwater in certain areas, it is unclear how DEQ can rely on groundwater inputs as a conservative assumption upon which an implicit margin of safety is based. In addition, if the Department does not know enough about groundwater inputs, as it should, how can it claim to determine the natural thermal potential of the waterbodies?

The TMDL is unclear in its discussion of Pine Creek. This three-sentence paragraph states that Pine Creek was not modeled because the flow is small, that point sources are given mixing zones, and that the numeric criteria provide the needed targets. These sentences do not explain why Pine Creek wasn‘t modeled or why the numeric criteria are the targets. We do not argue that discharge to Pine Creek should be allowed although the TMDL should explain the reason for the low flow.

P. 1-19 Surrogate Measure

The surrogate measures provided are a commendable approach to the difficult problem. NWEA supports DEQ‘s effort of increasing shade to decrease solar radiation. This is an important factor in reaching a higher water quality standard, but it is not the only factor to be considered, such as sinuosity and cumulative effects from other human activities. Providing additional tools that supplement the TMDL is important, especially because of the limited

application of a TMDL. The surrogate measure provides tangible objectives that will help guide further water quality and monitoring. We also agree that surrogates must include more than stream shading, particularly width:depth ratio. We are concerned that sinuosity is ignored as an important surrogate. Both of these two items would benefit from explicit statements concerning erosion. Additionally, there is no statement concerning the needed width of a riparian zone‘s vegetation to establish the system potential shade.

P. 1-24 Figure 1-13

The description for Figure 1-13 states it is diel temperature but the graph labels it as diurnal temperature. We recommend the diel temperature because it includes a 24-hour period, whereas, diurnal has a daily cycle and occurs in the daytime.

Page 1-25 Margin of Safety

There is no explanation why the assumptions made are conservative. The TMDL is primarily an exercise to state what the criteria will be to replace the biologically based numeric criteria. In modeling those so-called natural conditions, without knowing groundwater inputs, the criteria are likely to come out hotter, which is not conservative. To claim that —cooler microclimates“ will exist is a pipe dream. We agree that it is illogical to assume that anything more than natural conditions will occur but we do not agree that, particularly given the absence of specific flow needs, the TMDL is conservative or reflective of natural conditions.

P. 1-25 Seasonal Variation and TMDL Time Frame

The discussion that seasonal timeframes are not a critical concern for non-point sources fails to discuss how meeting the TMDL affects temperatures, other than during the hottest time of year, to protect bull trout and salmonid spawning. This is a serious oversight.

This section creates more ambiguity in the standards and the TMDL. What does the Department mean when it says that the —target varies longitudinally“? What does it mean when it implies that the standard only applies during July and August? Why does this section state that the TMDL only applies to assessed waters, whereas earlier in the document it states it applies to all perennial streams in the subbasin?

Page 1-26. Reserve Capacity

We strongly disagree that this subbasin has any reserve capacity. At the very least, the TMDL must state that until the standards are attained, there can be no additional new sources. In addition, it should state there can be no new withdrawals of water. The Department fails to ensure the full support of designated uses when it interprets its standards to mean that it can choose criteria that are too hot and then add an additional thermal load.

P. 1-27 Water Quality Standard Attainment Analysis

This analysis does not include the timeframe in which standards will be attained. Without this critical piece of information, the Department renders the TMDL nearly moot. Without a rate

of improvement that can be derived from such a timeframe, the controls, practices and restoration activities needed will occur on such an attenuated basis as to make the point of this exercise useless. Moreover, a watershed TMDL such as this should examine, detail and explain the need to provide protection to the existing uses, especially the sensitive uses, particularly in light of the document‘s stated inability to meet water quality standards. Yet, no discussion takes place in the TMDL regarding protecting or creating cold-water refugia, protecting wetlands, increasing groundwater flows, or other forms of protective natural regimes for the river system. This section of the TMDL only contains a chart rearranged from the previous potential graph. It does not contain anything concerning attainment of water quality standards.

In addition, the discussion on the —most dramatic potential spatial temperature reduction“ is unclear. What is the value of this analysis? Moreover, what is the Department attempting to accomplish by stating that the —sub-lethal temperatures for Chinook salmon and steelhead are 25ºC (77ºF) and 25.6ºC (78ºF), respectively“? TMDL at 1-27. This seems to convey that the derived criteria in the TMDL are protective. If this is the Department‘s intent, it should resubmit these criteria to the EPA for approval, otherwise the DEQ seriously misinterpreted the standards.

Chapter Two -- WQMP

P. 2-4 <u>(B) Goals and Objectives & (C) Proposed Management Strategies</u>

The ultimate goal of every WQMP, attainment of water quality standards at the earliest possible date, directs the DEQ‘s to design objectives to pursue this goal. Although the WQMP states that its goal is to improve the riparian and channel conditions, as well as to encourage in-stream flow, nothing in the WQMP states how, when, where and who will take on these projects. Funding and timelines are absent from the WQMP. The WQMP will never attain WQS without describing how the implementation of these goals will achieve WQS.

NWEA supports increasing the sinuosity of the river but we are curious again as to whom, how, when and where this will take place. Funding also poses major concerns to us. The WQMP mentions it could be passive or active restoration, but gives no details at all. The WQMP omits timelines.

It is absurd that DEQ states, —increased flow is not an objective required by the TMDL.“ That DEQ, which lacks authority to control nonpoint sources as much as it does to control water withdrawals, would undermine the potential for this TMDL to act as a blueprint for actions needed to meet water quality standards, is inexplicable.

In order for the WQMP to be effective for pollution controls and for attaining water quality standards, it is crucial the WQMP is explicit about which management measures, practices, or other activities and tasks will be employed to achieve which objectives; where and when the measures will be used; and how application of the measures will achieve the stated objectives. DEQ, Guidance for Developing Water Quality Management Plans That Will Function as TMDL‘s for Non-point Sources 10 (Nov. 1, 1997)(hereinafter cited as Guidance).

P. 2-5 (D) Timeline for Implementing Management Strategies

The DEQ inadequately prepared this portion of the WQMP. There are no timelines listed at all in this section. There should be a timeline for scheduling permits, schedule for achieving appropriate incremental and measurable water quality targets, schedule for implementing control actions, and a schedule for completing measurable milestones. Instead, the DEQ skirts around the issue of providing anything concrete in its proposed management strategies and leaves those duties to the DMAs. Now, the DEQ will not have to be a part of any implementation of management strategies, nor the creation and oversight of any timelines, except, of course, for the deadline to submit an implementation plan. Instead, DEQ should not propose timelines for when the implementation plans from the DMA‘s are due. It should, however, provide dates, milestones, and effectiveness evaluations. The DEQ should guide the DMAs with their plans and obligations, not just leave it to chance that they fulfill their duties.

P. 2-5 (E) Relationship of Management Strategies to Attainment of WQS

The WQMP states that WQS will be met if sufficient stream flow restoration occurs. DEQ knows that it does not have control over stream flows, and cannot rely on the stream flow to be regulated according to a TMDL. The DEQ should not only state that the WQS is dependent on the stream flow, but it should also include that increasing stream flow remains one of the main necessities in order to achieve WQS. In other words, increasing stream flow is the definition of meeting water quality standards in this subbasin. DEQ must also state that increasing stream flows are unlikely to occur to address the problems with temperature in the river because of the lack of control over increasing stream flows. This section should have a detailed explanation of how the implementation of the management strategies will result in attainment of WQS.

P. 2-5 (F) Timeline for Attainment of WQS

The DEQ does not act aggressively with this TMDL. For example, the levee has not been addressed. The statement ”as soon as feasible‘ does not qualify as a timeline, does not have a deadline, and gives the impression that this will go on for decades without WQS attainment.

The DEQ does admit that vegetation growth can take decades, almost a century to restore, but no reference to other projects that address the temperature problem occurs in the TMDL. Other measures can be taken to help improve the temperature. These need to be accomplished sooner than later because these species are on the verge of extinction and it is possible that they cannot wait 50 years for some shade. In any case, shade will not come about without implementation and this document sets no timeframe for basic implementation.

P. 2-8 (H) Existing Planning Framework and Expected TMDL Response

Point Sources

It is appropriate that point sources are given allocations of zero. However, it is unclear what general permits are allowed in the subbasin. The TMDL should be clear on how it restricts activities regulated by such general NPDES permits.

Non-point Sources

Agricultural Lands

The reliance on the ODA's AgWQMP for the Walla Walla subbasin will not have the force necessary to achieve water quality standards.

The AgWQMP addresses Streamside and Riparian Area Management, stating, —they must have allowed the establishment, growth and maintenance of riparian vegetation." Walla Walla Loc. Agric. Water Quality Advisory Committee, Walla Walla AgWQMP Guidance Document and Administrative Rules 20 (April 17; 2002); OAR 603-095-1740(3)(a) (2003). This starting point does not address the main goal of the WQMP, namely restoring the vegetation. If no rule forces an agency or landowner to plant trees for shading it will not get done. The rule as it stands simply tells landowners to allow the riparian vegetation to grow but this zone needs active replanting so that the right trees will grow to provide the necessary shade.

The AgWQMP addresses Soil Erosion and Sediment Control. The administrative rule tells landowners they must control soil erosion using practical and available methods. The mandate of practical and available methods is too broad and allows landowners to implement only the most economical changes. It does not force them to implement the major and effective methods that would assure attainment of WQS. Considering many of these agricultural sources have been and continue to be a source of the temperature problem, they should be mandated to help the problem and not just provide a band-aid every now and then.

Regarding rangelands, without mandating landowners to use the best available methods, it is hard to predict whether WQS will be achieved. This may be due to the fact that the DEQ allowed the ODA to set up its implementation plan with no guidance or restrictions as to what the river requires for attainment of water quality standards.

Livestock grazing is a major cause of sediment and the AgWQMP should mandate best available controls, meaning controls that are sufficient to attain standards.

The monitoring section is inadequate. Ineffective monitoring is like having no plan at all. Having rules does not mean they will be followed and rules may be inadequate, a fact that cannot be established without monitoring. The AgWQMP should have detailed when, where, how often, and who was going to monitor to ensure compliance. Instead, we are left with a set of rules that may not be followed because there is no monitoring.

In addition, the biennial review of the AgWQMP has been completed. We do commend the actions taken so far, they are a start and will make a difference. Steps are being taken by farms but are they enough? Will the plan be aggressive enough to attain WQS as soon as possible? Will the extent of the plan be suitable to attain WQS? The answer to all of these questions is probably no. So far, in two years, only nine projects have been implemented that stem from the AgWQMP that deal with stream temperature and restoration on 74 acres. Fifteen projects have been implemented under federal programs to reduce soil erosion on a couple thousand acres. Only 81 farms have implemented water efficiency on 582 acres. This is a great start, but considering the subbasin has 133,000 acres of cropland, and hundreds of farms, there is more progress to make. All of this begs the question whether the AgWQMP will succeed in attaining WQS as aggressively as possible. Will the rules generated from the AgWQMP be strict enough to get the goals accomplished in time? At this rate, this possibly could go on for many decades. This leads to the conclusion that there is a misinterpretation of the standards necessary to attain water quality standards to protect existing uses, such as sensitive salmonid species,

which requires much more aggressive action in order to adequately protect them.

Non-Federal Forest Lands

The DEQ has not identified any impairment due to forestry. This seems contradictory with Table 1-1, which specifically lists Forestry as an existing pollutant source.

The ODF has not yet changed any practices or rules in response to any TMDL. How can WQS be met through current forestry practices if the ODF does not adhere to the requirements of the TMDLs? In addition, the EPA has concluded that the Forest Practices do not meet the goals of the Clean Water Act or the Endangered Species Act. EPA, Review of the December 2001 Draft Sufficiency Analysis: Stream Temperature, Letter 2 (Feb. 2001)(hereinafter cited as EPA Review of SA). The TMDL should direct the ODF with specific plans necessary for the ODF to adopt, and not just rely on the ODF to create their own solutions. This is analogous to letting the prisoner guard the other inmate.

In addition, the water quality standards must be flawed because they allow the ODF to utilize the Forest Practices Act to attain water quality standards even though the practices are known to be inadequate for that purpose, a point on which EPA agrees and states, —the preponderance of existing scientific knowledge and evidence indicates that forest practices under the FPA are likely to adversely affect the factors that elevate stream temperatures, contributing to WQS violations and adverse effects to beneficial uses such as salmonid spawning and rearing.“ EPA Review of SA at 3. The water quality will deteriorate under the FPA, and to allow the ODF to manage its practices under these regulations proves flawed standards, as well as an illogical approach that the DEQ takes to attain water quality standards. A TMDL is an appropriate place to implement the gap-filling nature of standards, rather than to blindly apply criteria and rules that are inadequate to protect beneficial uses.

Currently, the FPA runs circles around the Clean Water Act due to the fact that forestry practices only have to try best management practices to achieve water quality standards. They do not have to actually achieve the water quality standards that the CWA dictates. If the ODF does not have to meet the water quality standards, we will not aggressively attain WQS for this TMDL or any other TMDL. The DEQ should have explicit timelines and milestones so that attainment of WQS is realistic.

Federal Lands - BLM

Umatilla – This area is assumed to be in attainment simply from a DEQ visit to the site. No studies of this area were completed. How can a person tell the temperature of a river simply by looking at it? Studies and modeling should be included in the TMDL.

Harris Park - For an Area of Critical Concern that has excessive heat, the DEQ seems to feel they do not need to mandate anything to the BLM. No timeline for attainment exists or even instructions for what the implementation plan needs for attainment. The DEQ should not solely rely on the federal agency, it should also assist and guide the agency with stringent recommendations to assure that WQS will be attained because after completing the TMDL, the DEQ knows exactly what needs to be implemented.

Milton-Freewater Levee & Nursery Bridge

One of the main problems in the subbasin does not get addressed; it is left to future contentious political debate with no timeline in sight. Again, the DEQ demonstrates the lack of aggressively pursuing attainment of WQS if it does not direct and mandate a response so that the TMDL can actually be accomplished. What must also be noted is that it seems as if nobody knows what to do with the levee. The DEQ expectations do not mandate situations, instead the statement —targeted planning scenarios, as feasible, should include," suggests that there is no directive to implement the necessary listed suggestions. The levee managers could come back and say that nothing is feasible. Instead, the DEQ should require certain aspects to be accomplished by using the term "shall' instead of "should,' because the DEQ is responsible for attainment of WQS. It should also ensure that the DMAs implement the necessary tasks that would improve water quality dramatically in the subbasin. There has been discussion concerning funding but no plans exist for what the money can do for an immediate improvement. More aggressive action must be taken with the levee before problems with the water temperature drag into the next century.

It was determined that it may be too costly to implement levee corridor widening, a beneficial measure to combat the temperature. Are any measures going to be implemented with the levee? Why are trees only proposed for the back slope of the levee? Should they be proposed for the entire levee length of 5.3 miles?

A concrete plan is needed for the levee and a timeline.

P. 2-11 Schedule for Preparation of Implementation Plans

Using the phrase "tentatively target a 5 year cycle' proves that DEQ is not prepared to commit to anything in the TMDL and the WQMP. The schedule should set dates for review in order to adhere to the goals of the TMDL of attaining water quality standards at the earliest possible date through aggressive measures. The WQMP implementation must last as long as it takes to bring the waters back into compliance with water quality standards. Guidance at 11. A statement that the review is subject to available staff and priorities suggests to the public that this TMDL is not a priority, the implementation plans are not aggressive, and it creates uncertainties that the DEQ will not keep the WQMP going as long as necessary to attain water quality standards.

Because the watershed contains threatened or endangered aquatic species, the WQMP should move as fast as possible to enhance critical water quality conditions. We are curious whether waiting another 18 months from the final date of this approved TMDL, which could also take many more months, is waiting too long for plans from the DMAs. These threatened species require our assistance now due to the problems we have caused. To wait another 18 months, plus the additional waiting period for the plans to begin, can lead to many more years of degraded water quality that will further threaten the survival of the species.

The WQMP should include milestones designed to mark progress toward longer-term goals and objectives.

P. 2-11 Reasonable Assurance

Although the reasonable assurance section provides information regarding the DMA's involved in most of the affected lands in the area, there is no mention of reasonable assurance regarding the levee. Either this section was left out, or there is no reasonable assurance that the public can count on that the levee managers will do their part to attain WQS.

Other requirements in the reasonable assurance section that are missing are: —bad actor" definition and indication of how and by whom the implementation of management measures will be enforced if necessary to achieve WQS. Guidance at 13. Although the WQMP addresses the voluntary effort, which seems to prove local involvement success so far to date, there is not mention of addressing the potential need for enforcement should the voluntary effort not materialize. The high amount of voluntary efforts needed to attain WQS raises doubt in the success of the plan.

The DMA section lacks proper assurance because the ODF controlled by the FPA has never adopted any changes for a TMDL. The FPA requires only that the best management practices need to be implemented, not that actual water quality standards must be attained. Relying on the ODF for this TMDL or any other TMDL to help aggressively attain WQS portrays an image to the public that the DEQ is not going to attain water quality standards when forestry is involved.

P. 2-13 Monitoring and Evaluation

Again, the mention of roughly planning a 5-year review, if feasible, does not set up a monitoring program the public can rely on to ensure that the DEQ will actually monitor the progress of the WQMP. As DEQ has itself pointed out, —[a] high degree of commitment to ongoing monitoring of project effectiveness is a very important element of the WQMP … the failure to adequately fund and carry out monitoring is nearly as serious as the failure to implement the plan itself." Guidance at 15. Your own agency suggests that a monitoring plan is a crucial ingredient to the WQMP. The WQMP may fall apart if there is no monitoring. The public is counting on the DEQ to attain WQS in the watershed aggressively and adequately. This is why monitoring over time is necessary to ensure that the WQMP is on track to meet its goals.

P. 2-14 Public Involvement

NWEA and NEDC appreciate the opportunity to comment on the Walla Walla subbasin TMDL, as well as for the extension to the deadline, ensuring that thorough and meaningful comments could be presented. We feel the involvement of public comments can lead to improvements where there may be deficiencies in TMDLs, which would only help to ensure that WQS would be attained.

P. 2-14 Costs and Funding

The WQMP provides no estimates for the costs associated with plan implementation. This can be explained by the fact that no implementation plans from the DMAs exist, except the AgWQMP from the ODA. The costs involved are not identified in the WQMP.

Another aspect, mentioned above and that surfaces in the costs section, concerns the passive or active restoration. Again, this proves that no concrete plans exist on which the public may rely on. If either one of the passive or active plans are considered, maybe a cost estimation for each plan would have been necessary to see what costs the DEQ would be looking at to then determine whether or not either plan would even be realistic.

Referencing the Umatilla TMDL costs shows the inadequacy of this section. The Umatilla TMDL has a complete rundown of predicted costs. When contrasted with this WQMP, it shows that the costs are missing completely.

Additional Comments

The USFWS Bull Trout Recovery Plan for the Umatilla-Walla Walla Basin states that there are increased phosphate levels in the South Fork Walla Walla River on the BLM land. We would appreciate any information regarding this pollutant and whether a TMDL is necessary for phosphorous.

Conclusion

The development of a TMDL is difficult and time consuming but it does present the DEQ with the opportunity to make significant strides toward maintaining the health of Oregon‘s waterways. Although DEQ is identifying the sources of the increased temperature and making some recommendations on how to mitigate the pollutant, the TMDL and WQMP are not adequate to ensure the attainment of WQS. In fact, what DEQ has done with this TMDL and WQMP is to assure the public that very little will be done in response to this TMDL. First, everything has been designated to the DMAs such that we do not know the implementation plans nor does the TMDL provide any concrete guidance as to what those implementation plans must look like to ensure that WQS will be met in a reasonable time frame. Second, with so many procedural and substantive sections missing throughout the document, this draft version requires much more to be added to the final version. Finally, we do not feel that the accurate natural thermal potential was utilized for this TMDL, a crucial aspect for setting the temperature goals. The TMDL claims that the natural thermal potential supersedes the numeric biological criteria. This thermal potential has many flaws because it was based on the system potential using minimized human activity, which contradicts the water quality standards. The rules require that if estimating the natural thermal potential, it must be done without any human activity. Then, the data will reveal whether the natural thermal potential is higher than the numeric criteria. Either the standards are flawed or the DEQ has not interpreted the standards correctly. The TMDL does not explain which minimized human activities were left in the modeling and it is assumed that what was left is the levee since there is nothing that can be done to it right now. If so, the levee, which causes the major increase in temperature in the river, cannot be used in accurately estimating the natural conditions for natural thermal potential modeling. These data should not be used. The TMDL needs to be revised to correctly estimate the natural thermal potential, or revised to meet the numeric criteria. The NWEA and the NEDC urges the DEQ to revise the WQMP to provide for more concrete and enforceable implementation that will lead to the attainment of WQS.

Thank you for the opportunity to comment on the Draft TMDL and WQMP for the Walla Walla subbasin.

Jared Kahn

Northwest Environmental Advocates
(NWEA) Legal Clerk

Jared Kahn

Northwest Environmental Defense Center (NEDC)
Project Coordinator

Native Creek Society
203 Beet Road
Walla Walla, WA 99362

July 14, 2005

Mr. Don Butcher

Mr. Bob Bower

Subject: Comments Walla Walla Subbasin Stream Temperature TMDL and Water Quality Management Plan, May 2, 2005, State of Oregon Department of Environmental Quality

Dear Mr. Butcher and Mr. Bower:

We appreciate the work you and others have done in preparing the draft Walla Walla Subbasin Stream Temperature Total Maximum Daily Load and Water Quality Management Plan, including Appendix A to the plan.

At page 1-3 of the plan you note that the highest temperatures are between late July and early to mid August and therefore your focus is on August afternoon temperatures. This is appropriate.

Being a scientific document, we believe all relevant facts should be set out. In this context , the Plan should note the importance of the cold ground water inflows through springs and tributary and distributary streams which cool the warmer surface water in the mainstem.

It should also be noted in the Plan that the diversion of more water down the Tum-a- Lum Section (now known as the mainstem Walla Walla River) from the Little Walla Walla River actually resulted in an increase in temperature of the water in the Walla Walla River at the Oregon-Washington Stateline. While this surprised many people, the rational explanation is that the cold ground water from the substantial springs that arise in Oregon in the neighborhood of Tum-a-Lum bridge were overwhelmed by the diverted water being heated flowing over the formerly dry rocky riverbed upstream of Tum-a- Lum bridge. As you note in Appendix A at 3.5, page 80 there is a “critical need for informed decision making” which can only be made with all the facts. This fact could be inserted at that point. Also it should be noted in the Plan that the diversion of more water down the mainstem or less down the Little Walla Walla has

resulted in some streams downstream in the Little Walla Walla system being dried up (like the West Little Walla Walla) during two to three month periods when they were naturally perennial streams.

Page 1-4 the Plan states “Flows of roughly 45 to 100 CFS represent natural flow scenarios, depending on whether historic distributary branches of the River were active.” It is submitted that there is zero scientific evidence that distributaries were not active in any natural flow condition at any time.

Reference to water in what was dry river bed “unseen in nearly 100 years.” (example, Appendix A, page 2-11 at top of page.) is not accurate. There is no mystery about how long the River bed was dry for the two - three miles. The fact should be stated, “dry at least since 1880”. The United States Supreme Court in the Washington Oregon litigation found that that section had been dry since at least 1880. The last substantial salmon run was in 1905. The point is that by muddling the fact as to when the river was dried -up , people will start to connect dry riverbed (“nearly 100 years, subtract 100-1905 equal direct destruction of salmon run ). The salmon run was destroyed by Attalia Dam, at Reese, (“Nine Mile”), built in 1905, about 8 miles from the mouth of the River.

For parallel language, and better understanding by the reader, the Mill Creek- Yellowhawk division should be referred as a “Diversion” as the Little Walla Walla River is referred to as a “Diversion” . The physical function of both headgates is the same except that in periods of low water almost all of Mill Creek is sent down Yellowhawk.

At page 2-11 of the Plan the fact is stated that the Walla Walla River divides in Milton-Freewater into the Little Walla Walla River and Tum-a-Lum Branch now Walla Walla River. You state “Perhaps half the water of the of the mainstem naturally exited at the Little Walla Walla River which in turn divided into branches”.

Is not this speculation on your part? The Umatilla County Circuit Court found on the evidence presented to it that it was one-third to Tum-a-Lum Branch and two thirds Little Walla Walla River in the natural state in a case tried 1906. The U. S. Supreme court found that on the evidence presented to it in the 1930s it could not make a determination. Citations to these cases have been provided to you before and will be provided again on request.

Page 80 of Appendix A, 3.5 “Potential in-Stream Flow”. Part of the scenario here is an August flow

of 100 cubic feet per second at Nursery Bridge in the Tum a Lum (Walla Walla River) below the natural Little Walla Walla River diversion. This of course is an amount of water which sometimes would exceed the entire flow of the River, and by magic eliminates the natural division of the River upstream from what is now Nursery Bridge into what was known as the Little Walla Walla River and Tum-a-Lum Branch. This 100 CFS "scenario" at Nursery Bridge and eliminating the
natural division up stream of that is not the result of "collecting facts through observation and experiment."

At page 82 of Appendix A in further explanation of the 100 CFS scenario it is stated in bold type that:

"It is also important to recall that the existing Walla Walla mainstem is one branch of several that once spread across the valley floor.(Section 1.5.1) Since the late 1880's the aggregate flows of these branches has been routed into the Tum-a-Lum Branch (the existing mainstem)."

The first sentence is of course correct. However as to the second we cannot believe our eyes. What happened to "Walla Walla" meaning "many waters"? Why the dry stretch of 2 miles above Nursery Bridge since at least 1880 until 2002? Why did not someone tell the United States Supreme Court or the Oregon Courts this fact.

Errata: Page 1-6, clerical error in year of Mullan Map; "Swegle" is misspelled "Sweagle" at various places in the Plan and Appendix.

Clarification?: At page 14 of the Appendix where you note the "approximate" order of decreasing flow, it would if you are referring to the critical temperature period of mid July-mid August probably be more accurate to place Mill Creek after the East and West Branches of the Little Walla Walla River. At that time of year, with most of its water being diverted down Yellowhawk, Mill Creek's only flow is from springs below the Yellowhawk diversion and there is some irrigation use between the diversion and its mouth.

Sincerely,
Native Creek Society

Tom Page
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President

Yancey Reser
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Secretary

**United States Department of Agriculture** **Forest Service** **Umatilla National Forest**
**2517 S.W. Hailey Avenue**
**Pendleton, OR 97801**
**541-278-3716**

**File Code:** 2530
**Date:** July 14, 2005

Don Butcher
Department of Environmental Quality
700 SE Emigrant
Pendleton, OR 97801

Dear Don:

This letter is our response to Oregon DEQ's request for comments on the proposed TMDL for the Walla Walla Basin. The Umatilla National Forest (UNF) manages approximately 100,852 acres or about 9 percent of the Walla Walla subbasin (HUC#17070102) in Oregon and Washington. As federal manager's, the UNF is responsible for protection and enhancement of these lands and resources, as directed by applicable laws, regulations and authorities. The UNF has been involved in the development of the proposed TMDL for the Walla Walla Basin, and our role and contributions are appropriately reflected in the draft. Overall, riparian and water quality conditions on the UNF are generally recognized to be at system potential.

Specific Comments

The UNF is identified as a designated management agency in the Draft, with expectations from DEQ to "maintain the existing level of channel and riparian protection". Further, DEQ expects documentation of this commitment within 18 months of approval by EPA (Draft, 2-9). The three Blue Mountains National Forests (Umatilla, Wallowa-Whitman, and Malheur) are currently working on a revision to the National Forest land and resource management plans. We do not anticipate substantial changes in existing management strategies and guidelines in the UNF portion of the Walla Walla basin, however, there may be changes in national direction that could affect management strategies in the Walla Walla basin. Federal responsibility under the Clean Water Act would still apply, and the Forest Plan revision will contain direction consistent with current management direction for water quality protection.

The UNF supports the general concept of natural thermal potential replacing biologically based criteria and also recognizes the technical challenges in making these determinations computationally. The Draft recognizes that system potential vegetation alone, for example, will not resolve water quality impairment. Other sources (groundwater, channel processes, flows) are beginning to be recognized, evaluated, and accounted for; however, true system potential is only partially understood. The adaptive management approach, also used by the Forest Service, is a logical tool to help address these uncertainties.

Minor editorial comments on word usage and some typographical errors were noted on pages: iii-v, and 2-9 should refer to Appendix A, 3.3.3.

Lastly, the UNF recognizes and supports the collaborative approach taken in development of the Walla Walla TMDL, specifically in working on complex bi-state water issues, partnering with the Walla Walla watershed council, and collaboration with other agencies, Tribes, and organizations, including the UNF. We recommend that DEQ continue active support for using the collaborative approach in the implementation and monitoring phase of the TMDL process.

Thank-you for the opportunity to comment. If you have questions about our response, please contact Caty Clifton, (541) 278-3822.

Sincerely,

/s/ Delanne B. Ferguson (for)
KEVIN MARTIN
Forest Supervisor

cc: Mary Gibson, Delanne B Ferguson, Trish A Carroll

# Appendix B:

# Memo from Umatilla National Forest, Walla Walla Ranger District

**United States Department of Agriculture** | **Forest Service** | **Walla Walla Ranger District** | **1415 West Rose Walla Walla, WA 99362**

**File Code:** 2500 Watershed **Date:** August 9, 2005
**Subject:** Effects to potential vegetation inside perennial stream buffers of NFS lands in the North Fork Walla Walla River and of Middle Mill Creek

**To:** Don Butcher, Oregon Department of Environmental Quality
**From:** Stacia Peterson, Umatilla National Forest, North Zone Hydrologist

National Forest System (NFS) lands in the Oregon portion of the Walla Walla basin are organized into several subwatersheds which were delineated using the national, interagency Hydrologic Unit Code (HUC). These subwatersheds are:
Upper South Fork Walla Walla
Middle South Fork Walla Walla
North Fork Walla Walla
Upper Mill Creek
Middle Mill Creek

- Upper **South Fork Walla Walla and the Middle South Fork Walla Walla** subwatersheds were the subject of a February 2, 2004 memo.

- The **North Fork Walla Walla** subwatershed has the same Forest Plan management direction as the South Fork:
F4 Walla Walla River Watershed
Goal: Provide high quantity and quality of water and elk habitat effectiveness while sustaining or enhancing other resource values. Management Activities will not substantially change the level of water discharge from the National Forest during the May 1 through September 30 period.

A review of harvest history in the North Fork of the Walla Walla shows 320 acres of harvest occurring within 300 feet of perennial streams and about 145 acres within 150 feet since 1959. Harvest occurred on or near perennial tributaries to the mainstem. No harvest occurred inside of 300 feet of the mainstem of the North Fork Walla Walla. This amounts to about 11 % to 12 % of near channel vegetation. Reduction in shade is overstated by these numbers since aspect was not included in the evaluation. There are numerous road crossings of perennial streams in midslope positions, but no roads are located along the length of any channel.

The most recent harvest in near channel locations occurred in 1979. Regrowth in the last 25 to 30 years is likely to be providing shade to most channels affected by harvest, since these are narrow, V shaped valleys with relatively small channels. No channel modifying activities have been documented on NFS lands and are unlikely to have occurred. A 1991 stream survey recorded substantial large wood debris in NFS portions of the mainstem of the North Fork; 49 and 111 pieces per mile in Reach 2 and 3 respectively, which exceeds PACFISH standards and is near potential.

The Umatilla National Forest Land and Resource Management Plan as amended by PACFISH identifies standards and guidelines to maintain Riparian Habitat Conservation Areas (RHCAs) and allow for the recovery of conditions necessary to meet Riparian Management Objectives (RMO). Shade, bank stability, and large woody inputs are some of the measured components that are protected by the standards. Current management practices provide for recovery of components that control water temperature.

The North Fork Walla Walla subwatershed is on the way to recovering potential vegetation characteristics near channels that were harvested and recovery is protected by the Umatilla Land and Management Plan as amended by PACFISH.

**- Upper Mill Creek** and portions of Middle Mill Creek subwatersheds have been recognized as the municipal water supply for Walla Walla since a 1918 agreement between the Secretary of Agriculture and the city of Walla Walla. This agreement set aside Mill Creek Municipal Watershed as a restricted management area. There has been no harvest or other vegetation manipulation in the watershed though wildfires have been suppressed as rapidly as possible.

- Some harvest has taken place in the remainder of NFS lands in **Middle Mill Creek** subwatershed, along Tiger Canyon. Aerial photos of acquired lands in the subwatershed were reviewed and show no evidence of harvest. A review of harvest history on proclaimed NFS lands shows 159 acres of harvest occurring within 300 feet of perennial streams and 60 acres within 150 feet since 1959. No harvest has occurred within these buffers since 1996. This amounts to about 3 % to 4 % of near channel vegetation. Reduction in shade is overstated by these numbers since aspect was not included in the evaluation. Forest Road 6500 is located on the north east side of Tiger Canyon Creek for about 1 ½ miles, before it climbs up slope. Other roads in this subwatershed are located in upper slope of ridge top positions with few or no perennial stream crossings.

Stream survey data collected on NFS lands in 1996 identified 21 pieces of large wood per mile and 97 pieces of smaller wood. Tiger Canyon is a relatively small stream and this quantity and size range of wood is adequate to provide structure and channel stability, protecting fish habitat and overall stream morphology. Near channel vegetation in this subwatershed is at or very near potential for shade and woody input.