

MIDDLE COLUMBIA-HOOD (MILES CREEKS) SUBBASIN TMDL

RESPONSE TO COMMENTS



State of Oregon
Department of
Environmental
Quality

December 2008



Introduction

This Response to Public Comments document addresses comments received regarding the Draft Middle Columbia-Hood (Miles Creeks) Subbasin Total Maximum Daily Load (TMDL) & Water Quality Management Plan (WQMP) dated October 2008. The Oregon Department of Environmental Quality (DEQ) appreciates the time and effort that all the commenters put into reviewing the document. All comments have been considered by DEQ and, where appropriate, have been addressed in the final document that has been submitted to the Environmental Protection Agency (EPA). EPA will then either approve or disapprove the TMDL.

Background

The public comment period on the proposed TMDL and WQMP opened on October 6, 2008 and extended through December 5, 2008. The public notice for the public comment period was sent to everyone on a list of interested parties maintained by DEQ. Direct mailings were sent to local officials and the notice was placed on DEQ's website. The public notice was advertised through local newspapers.

A public information open house and formal public hearing was held on November 20, 2008 at the Columbia Gorge Community College in The Dalles, OR. No-one from the public attended the open house and no oral comments were received. All comments received by ODEQ were submitted in written (paper and electronic) form.

The TMDL and WQMP were available for downloading from ODEQ's website throughout the comment period. Hard copies of the document were also available for viewing at The Dalles-Wasco County library, the Mt. Hood National Forest office in Dufur, the Wasco County Soil and Water Conservation District office, and at DEQ's offices in The Dalles and Bend. CDs of the document were sent to designated management agencies (DMA) and members of the TMDL Technical Advisory Committee: Mt. Hood National Forest (USFS); Bureau of Land Management (BLM); Oregon Departments of Forestry (ODF), Agriculture (ODA), Transportation (ODOT), Water Resources (OWRD), Fish and Wildlife (ODFW), and State Lands (DSL); the cities of The Dalles, Dufur and Mosier; Wasco and Hood River Counties; Northern Wasco County Parks and Recreation District; the Confederated Tribes of the Warm Springs Reservation of Oregon (CTWSRO); and citizen representatives from the Fifteenmile Watershed Council and the Lower Deschutes Agricultural Water Quality Management Area Plan Local Advisory Committee. Copies of the document were also provided to those individuals who requested copies.

List of Comments provided on the Middle Columbia-Hood (Miles Creeks) Subbasin TMDL

The following entities provided comments on the TMDL during the Public Comment Period and were received prior to closure of the comment period 5:00 PM December 5, 2008. There were no comments received after the close of the comment period.

Code	Commentor	Association	Media
Dalles	Richard Gassman	City of The Dalles Planning Department	Email
CRK	Lauren Goldberg	Columbia Riverkeeper	Email
ODFW	Jason Seals	Oregon Department of Fish & Wildlife	Email
SWCD	Ron Graves	Wasco County Soil & Water Conservation District	Email
EPA	Mark Filippini	US Environmental Protection Agency	Email and U.S. Mail



General

In the following section, DEQ provides our response to the comments received. The general format of this document is a listing of comments and questions sorted by commenter, followed by DEQ's response. Most comments are included in their entirety, although some comments quoting or citing information from other studies have been abbreviated in this summary. The original text of the comments is included as Appendix A. The changes identified in the following responses have been made to the TMDL submitted to EPA. An asterisk (*) indicates that the TMDL document has been modified based on a comment and modified text is included in italics in the DEQ Response. Page numbers mentioned in the DEQ Response refer to page numbers in the final TMDL document. Additional grammatical, editorial, and formatting errors are not addressed here but corrections have been made in the document. Additional clarifying language was also added to the document in several places.

Summary of Comments, Concerns and Questions

Comments from: Richard Gassman, Senior Planner, City of The Dalles. Received 10/8/08

Dalles Comment 1: On page 73 you begin a list of various entities having some jurisdictional authority in the study area. On page 74 you list the City of The Dalles as having responsibility for parks, among other things. The City of The Dalles does not own or operate any parks or park land. There is a separate Park District called Northern Wasco County Parks and Recreation District with headquarters at 319 E 7th in The Dalles. Phone is 541-296-9533. It operates all parks located within the City limits. I mention this now as you may want to add them to your mailing list and give them an opportunity to comment on the draft report.

DEQ Response*: DEQ contacted Scott Green with the Wasco County Parks and Recreation District and discussed the responsibility of the District for TMDL Implementation. Mr. Green agreed that it made sense to name the District as a DMA, which has been done in the TMDL and WQMP.

Comments from: Lauren Goldberg, Conservation Director, Columbia River Keepers. Received 12/5/08

Columbia Riverkeeper submits these comments on the proposed temperature TMDL and Water Quality Management Plan for the Middle Columbia-Hood (Miles Creek) Subbasin (collectively "Draft TMDL"). Columbia Riverkeeper ("CRK") is a non-profit organization with a mission of protecting and restoring the water quality of the Columbia River and all life connected to it. CRK headquarters are Hood River, Oregon. Many of CRK's members, and most of CRK's staff, reside in the Miles Creek Subbasin. As DEQ is aware, CRK operates an extensive volunteer water quality monitoring program. Our program includes multiple monitoring sites within the Miles Creek Subbasin. CRK contributes data collected from the water quality monitoring program to DEQ's water quality databases. On a regular basis, CRK comments on general and individual NPDES permits impacting the Columbia and tributaries. These comments often address compliance with Oregon's temperature water quality standards and narrative criteria.



Salmon and other cold-water species depend on cold water temperature for survival and recovery. Excessive temperature impacts salmon metabolism, growth rate, and disease resistance, as well as the timing of salmonid migrations, fry emergence, and smoltification. Salmon in the Columbia River and its tributaries suffer from the extremely high water temperatures during the summer months. Excess temperature is one reason for the decline of the salmon.

CRK respectfully submits these comments and questions on the draft TMDL and WQMP. CRK greatly appreciates the assistance of DEQ staff in the public commenting process. Thank you in advance for considering these comments.

1. Stormwater

The Draft TMDL addresses point sources of heat, including stormwater. The Miles Creek Subbasin includes urban areas. The National Research Council recently issued an exhaustive report on the impacts stormwater runoff. According to the National Research Council, “[s]tormwater runoff from the built environment remains one of the great challenges of water pollution control, as this source of contamination is a principal contributor to water quality impairment of waterbodies nationwide.” *Urban Stormwater Management in the United States*, National Research Council (Oct. 15, 2008), available online at: http://www.epa.gov/npdes/pubs/nrc_stormwaterreport.pdf. Importantly, the NRC Report discusses the multidimensional impacts of stormwater: “In addition to entrainment of chemical and microbial contaminants as stormwater runs over roads, rooftops, and compacted land, stormwater discharge poses a physical hazard to aquatic habitats and stream function, owing to the increase in water velocity and volume that inevitably result.” *Id.*

Stormwater runoff can cause direct and indirect thermal pollution. Stormwater can cause extensive erosion, alter stream channels and degrade riparian habitat. In turn, stormwater can increase solar impacts on waterbodies. Stormwater can also induce temperature spikes. Low impact development (LID) techniques, such as greenroofs and porous pavements, reduce the quantity of impervious surfaces in a watershed and can improve thermal impacts on waterbodies. DEQ’s Draft TMDL acknowledges the important role of groundwater in achieving the state’s temperature water quality standards. By encouraging LID, temperature impacts result by: (1) recharging groundwater that feeds streams, rivers and lakes and (2) reducing the habitat alteration impacts that result from the velocity of stormwater inputs to a system. Many studies examine the connection between impervious surfaces, stormwater and temperature. (DEQ Note: See Appendix A for complete listing of studies and references provided by Columbia Riverkeeper in association with this comment.)

The Miles Subbasin TMDL briefly addresses stormwater. Page 36 of the Draft TMDL states:

Stormwater discharges were determined to not be significant contributors of heat during the critical period over a seven day period as specified in the temperature standard. This determination was based on the amount of summer rainfall in Table 2-1 (June – September), and the frequency of rain during the same period for the entire data record . . . Stormwater permits are not mentioned further in this TMDL. If at a later date they are identified to be significant sources of heat they will be addressed during the next TMDL revision.

CRK Question 1: Where in federal or state law is “significant source of heat” a criteria for including or excluding a source from a TMDL or WQMP? Please explain.



DEQ Response*: By using the term “significant source of heat”, DEQ is referring to a source that would exceed the temperature water quality standard. DEQ recognizes this wasn’t clear so we modified the sentence of the paragraph cited above to the following:

“Stormwater discharges likely do not to contribute to exceedances of the temperature standard.”

A similar change was made on page 73, part (H) of Section 4.2 in the WQMP where the same statement about “significant contributors of heat” was made in the draft document.

CRK Question 2: Did DEQ consider, or will DEQ now consider, the thermal impacts caused by stormwater that lead to channel alternation, degraded riparian shade, and erosion? Please explain.

DEQ Response*: DEQ recognizes that stormwater runoff does have the potential to cause changes in stream morphology which could lead to degraded riparian shade. We did not have the data to do a direct assessment but feel, based on the limited amount of rainfall in the Miles Creeks area and the small amount of urban landuse, stormwater discharges likely do not cause channel alteration, or degrade the riparian area.

The TMDL requirement to restore system potential vegetation along streams supports the need to protect streams from degradation from stormwater erosion. Vegetation buffers filter and slow water velocities, allowing greater infiltration of stormwater from impervious surfaces. We have revised the sentence on page 41 to recognize the role vegetation plays in minimizing the effects of stormwater.

“Because factors that affect water temperature are interrelated, the surrogate measure (percent effective shade) relies on restoring or protecting riparian vegetation to increase stream surface shade levels, reducing stream bank erosion, stabilizing channels, minimizing stormwater runoff, and reducing the surface area of the stream exposed to radiant processes.”

CRK Question 3: Did DEQ consider, or will DEQ now consider, acute thermal impacts from stormwater sources? Please explain.

DEQ Response: DEQ did consider potential acute thermal impacts from stormwater. Based upon an analysis of temperature, rainfall, cloud cover and stream temperature data for warm seasons in three years in the Miles Creeks area, there was no consistent pattern between runoff events in urban areas and stream temperature. DEQ has investigated this relationship in other basins as well, and generally we have not found compelling evidence of a direct relationship between stormwater runoff and stream temperature in western or eastern Oregon. We have commonly seen cooling trends during warm season rain events that are much more clearly related to stream temperature than is precipitation. The limited analysis of local stream temperature in response to precipitation suggests no consistent thermal effects, and any increase in temperature would be small and short term relative to acute effects.

Page 80 - 81 of the Draft TMDL discusses municipal implementation plans. DEQ also discusses the current status of plans and notes what management strategies the



municipalities could include. The Draft TMDL states: "Management strategies could include: landowner education about riparian protection, evaluation of roads located along perennial streams for impediments to load allocation attainment, restoration of river shading and/or channel condition on County/City owned properties, and consideration of riparian protection ordinances."

CRK Question 4: Did DEQ consider, or will DEQ now consider, including LID as a management strategy that municipalities could include in an implementation plan?

DEQ Response*: DEQ recognizes LID as an effective strategy to control stormwater impacts and protect riparian vegetation communities. We have revised the sentence on page 79 to include LID as a management strategy which urban and rural DMAs could adopt. The sentence now reads:

"Management strategies could include: education about riparian protection, evaluation of roads located along perennial streams for impediments to load allocation attainment, restoration of river shading and/or channel condition on County/City/District owned properties, and consideration of riparian protection ordinances and low impact development (LID) building practices."

2. Groundwater

DEQ acknowledges the impacts of groundwater on stream temperature in the Draft TMDL. DEQ's 2002 Western Hood Basin TMDL contains a more extensive discussion of groundwater. In particular, the Western Hood Basin TMDL notes the value of data on thermal impacts from temperature in creating and revising TMDLs. Specifically, page 54 of the Western Hood Basin TMDL states:

Groundwater inflow has a cooling effect on summertime stream temperatures. Subsurface water is insulated from surface heating processes. Groundwater temperatures fluctuate little and typically cool . . . Many land use activities that disturb riparian vegetation and associated flood plain areas may affect the surface water connectivity to groundwater sources. Groundwater inflow not only cools summertime stream temperatures, but also augments summertime flows. Reductions or elimination of groundwater inflow will have a compounding warming effect on surface water. The ability of riparian soils to capture, store and slowly release groundwater is largely a function of floodplain/riparian area health.

The Western Hood Basin TMDL goes on to state that DEQ did not analyze groundwater in the TMDL effort. The Western Hood Basin TMDL states:

The data required to completely assess thermal effects of groundwater, such as forward-looking infrared radiometry (FLIR) have not been collected in the Western Subbasin . . . ODEQ recommends such data collection for future groundwater/stream analysis.

CRK Question 5: Did DEQ analyze groundwater in the Miles Creek Subbasin Draft TMDL? Please explain.

DEQ Response: DEQ did not take direct measurements of groundwater but we did attempt to identify locations where it influences Fifteenmile Creek. DEQ reviewed Thermal Infrared Radiometry (TIR) data to see if any groundwater influenced reaches could be identified in



the thermal imagery. DEQ also conducted a mass balance analysis using TIR data as well as flow data collected along the stream to identify potential groundwater influenced gaining or losing reaches. The mass balance analysis is described in Appendix A starting on page A43. Losing and gaining reaches that were identified are described on page A62 and shown in Figure A40.

DEQ also conducted local sensitivity analysis to assess changes in stream temperature based on changes in groundwater temperatures. This model simulation, labeled in the TMDL as Scenario 7, is described starting on page A72 in Appendix A.

CRK Question 6: Did DEQ consider, or will DEQ now consider, recommending groundwater data collection for the Miles Creek Subbasin TMDL? Please explain.

DEQ Response: DEQ made this recommendation. Page A72 from Appendix A reads:

“It is recommended that more data be collected if future work requires more accurate estimates of the influence of groundwater and hyporheic exchange.”

The Oregon Department of Water Resources has been studying the interaction between groundwater and surface water in the Fifteenmile watershed for several years. DEQ plans to work with WRD on groundwater issues as this TMDL is implemented.

3. Timeline for Implementation

Threats facing Columbia River salmon and steelhead are severe by any measure. The TMDL and the permit requirements it produces are critical to protecting and recovering multiple salmonids listed as threatened and endangered under the federal Endangered Species Act. In short, time is of the essence.

Columbia Riverkeeper is concerned with the timeframe for complying with state water quality standards and improving water temperature in the Miles Creek Subbasin. DEQ identified the Wicks Water Treatment Plant a significant source of temperature violations in the Draft TMDL. Page 76 of the Draft TMDL states:

Because the City will also need to develop an Implementation Plan to cover their nonpoint source activities (as described below), DEQ expects that the City will likely develop on Implementation Plan that will cover both their point and nonpoint source impacts. This Plan will be due to DEQ within 18 months of issuance of the TMDL and DEQ expects that it will outline a schedule for achieving compliance with the TMDL at the Wicks Water Treatment Plan discharge.

CRK Question 7: What authority does DEQ rely in generating the 18 month timeline? How does this timeline comport with the requirements of the federal Clean Water Act, implementing regulations and Oregon law? Please explain.

DEQ Response: The draft TMDL/WQMP incorrectly identifies that the Implementation Plan for the City of The Dalles will cover both their point and nonpoint source impacts. The Implementation Plan will outline implementation activities relative to the City’s nonpoint source activities and their load allocations. The impacts of the point source discharge at the Wicks Water Treatment Plant and attainment of the wasteload allocation will be through



their NPDES permit.

The submittal of the nonpoint source implementation plans will follow the 18 month timeline described in the WQMP (see the answer to Question 10 below). The timeline for issuance of the new NPDES permit for the Wicks Water Treatment Plant will not follow the same 18 month timeline. We have already begun working with the City to determine feasible strategies for meeting their wasteload allocation and anticipate continuing to do so prior to receiving their nonpoint source Implementation Plan. We expect to contact the City soon after the TMDL is issued to ask them to apply for an individual NPDES permit for their discharge. An individual permit will have more specific limits and requirements for the treatment plant than are included in the current general permit.

We thank the Columbia Riverkeeper for bringing this error to our attention. The paragraph quoted above has been removed from the WQMP. Similarly, the last sentence of the "Current Status" paragraph talking about City and County nonpoint source implementation plans on page 79 has also been removed.

CRK Question 8: After DEQ receives the Implementation Plan, does DEQ have a timeline for issuing the individual NPDES permit? Please explain.

DEQ Response: As noted in the response to Question 7 above, issuance of the NPDES permit for the Wicks Water Treatment Plant will not be linked to the timeline for the Implementation Plan. DEQ will ask The Dalles to apply for a new, individual permit soon after issuance of the TMDL.

CRK Question 9: Does DEQ anticipate that the new, individual NPDES permit will contain a compliance schedule for temperature? Please explain.

DEQ Response: Since compliance with their wasteload allocation does not appear to be feasible under the current operation of the plant, DEQ anticipates that a compliance schedule will be incorporated into a new permit.

The Draft TMDL also addresses the schedule for preparation and submission of other Implementation Plans. The Draft TMDL states: "DEQ expects that DEQ, the USFS Wasco County, The Dalles, Dufur and Mosier will fulfill the planning and evaluation expectations of Element H within 18 months of the date of their notification letter."

CRK Question 10: What authority does DEQ rely on in generating the 18 month timeline? How does this timeline comport with the requirements of the federal Clean Water Act, implementing regulations and Oregon law? Please explain.

DEQ Response: The federal Clean Water Act does not have specific requirements relative to a timeline for TMDL Implementation. Recognizing the importance of TMDL implementation activities, the State of Oregon adopted regulations pertaining to TMDL implementation in OAR 340-042. A Water Quality Management Plan (WQMP) is required in OAR 340-042-0040(4)(l) and is defined as "the element of a TMDL describing strategies to achieve allocations identified in the TMDL to attain water quality standards" (OAR 340-042-0030(17)). OAR 340-042-0040(4)(l) identifies the elements that need to be included in the WQMP, including sector-specific or source-specific implementation plans which need to be



developed by designated management agencies (DMAs). The requirements of the sector-specific and source-specific implementation plans are identified in OAR 340-042-0080. The WQMP is typically incorporated as a Chapter in the TMDL (as it is the Miles Creeks TMDL) and submitted to EPA along with the TMDL, even though EPA does not have approval authority for the WQMP.

There are no requirements in either State or Federal law which establish a timeline for TMDL Implementation. However, OAR 340-042-0040(4)(l)(D) requires that source-specific implementation plans must include a timeline for implementation and for meeting water quality targets. DEQ agrees with Columbia Riverkeeper that the timely implementation of management strategies is critical to the attainment of water quality standards. DEQ also recognizes that the programmatic planning necessary to initiate changes in management practices can take time, especially for small communities. DEQ expects that it will take between 12 and 18 months for a DMA to complete a TMDL Implementation Plan following DEQ's issuance of a TMDL. Eighteen months is the timeline that DEQ typically incorporates into WQMPs (see Willamette Basin and Umpqua Basin TMDLs).

4. Water Withdrawals

DEQ identifies water withdrawals and impacts on temperature in the Miles Creek Subbasin.

CRK Question 11: Has DEQ considered, or will DEQ now consider, assessing the impact of water withdrawals on temperature in the subbasin? Please explain.

DEQ Response: DEQ routinely considers the impacts of water withdrawals on temperature when developing temperature TMDLs. Water withdrawals were incorporated into the Middle Columbia-Hood (Miles Creeks) Subbasin TMDL, as is described in Appendix A, Section A2.2.3 and Section A3.2.2.

Water withdrawal information was obtained from OWRD databases and used for calibration of the current condition temperature model on Fifteenmile Creek. One of the TMDL simulation scenarios presented in Appendix A (Scenario 2: Natural Flows) was done to specifically assess the thermal impacts of water withdrawals. While maximum 7-day average stream temperatures in Fifteenmile Creek were cooler under natural flows (Figure A41), a greater cooling benefit was obtained by restoring system potential vegetation (Figure A43).

CRK Question 12: Has DEQ addressed water withdrawals or noted the points at which water is withdrawn in other TMDLs? Please explain.

DEQ Response: DEQ routinely considers the impacts of water withdrawals on temperature when developing temperature TMDLs. In most (if not all) of the recent TMDLs DEQ has developed for temperature, the calibrated current condition includes an estimation of the amount of water withdrawn at points of diversion. The Natural Thermal Potential (NTP) condition targeted in temperature TMDLs evaluates the instream temperatures possible with the establishment of natural conditions. As defined in OAR 340-041-0002, "Natural conditions means conditions or circumstances affecting the physical, chemical, and biological integrity of a water of the State that are not influenced by past or present anthropogenic activities". For determination of NTP, this assessment includes evaluating



the “best available information on the site potential riparian vegetation, stream geomorphology, stream flows and other measures to reflect natural conditions”. Examples of TMDLs where DEQ has evaluated the thermal affects of water withdrawals include: Willamette Basin TMDL, Umpqua Basin TMDL, Walla Walla Subbasin TMDL, and Western Hood Subbasin TMDL.

DEQ acknowledges that stream flow is an important variable influencing stream temperature and models natural flow conditions in our determination of NTP conditions. ODEQ intends to work with the Oregon Water Resources Department (OWRD), local watershed councils, and landowners as opportunities arise to encourage practices that will conserve in-stream water.

5. Monitoring

Increased temperature monitoring data is crucial to understand thermal impacts in the basin and improve water quality. Draft TMDL page 55 states: “While Crow Creek dam also received a portion of the nonpoint source HUA, an individual allocation might be determined for Crow Creek Dam if sufficient data were available. Since this data does not currently exist, the Dam allocation falls within the nonpoint HUA.”

CRK Question 13: Will DEQ require operators of the Crow Creek Dam to conduct temperature monitoring? If not, will DEQ conduct temperature monitoring to ensure that sufficient data is available in the future? Please explain.

DEQ Response*: DEQ expects that the City of The Dalles will develop a Temperature Management Plan for their operations at Crow Creek Reservoir as part of their nonpoint source TMDL Implementation Plan. A requirement of implementation plans is a plan for monitoring to ensure allocations are being met. The collection of additional temperature and flow data would likely be a component of that Temperature Management Plan. DEQ will work with the City to determine the details of the type and location of data needed. DEQ has added the following sentences to the “current status” section of the municipal implementation plan activities on page 79 to address this concern:

“In addition, The Dalles Implementation Plan will include a Temperature Management Plan which evaluates the thermal impacts of the current operation of Crow Creek Reservoir. The Plan would also include an assessment of the thermal impacts of any proposed changes to the dam.”

The Draft TMDL contains extensive discussion on the impact of the Wicks Water Treatment Plant. DEQ bases its analysis on data collected in the summer of 2005. At that time, treatment plant discharge increased stream temperatures by as much as 2 degrees during the summer. See Draft TMDL at 76. Columbia Riverkeeper commends DEQ for recommending that the Wicks Water Treatment Plant obtain an individual NPDES permit.

CRK Question 14: Given the significant impacts described in the 2005 data, does DEQ plan to increase monitoring of the temperature impacts of the Wicks Water Treatment Plant (WWTP)? In the interim (i.e. before WWTP obtains a permit), will DEQ require temperature monitoring to assist DEQ in drafting the NPDES permit? Please explain.



DEQ Response: The data that DEQ and the City collected in 2005 demonstrated that the thermal impacts of the Wicks Water Treatment Plant diversion/discharge are significant and will require the City to apply for an individual permit. At this point, DEQ does not believe that additional temperature data is needed to assess the thermal impacts of the current operation. Because it is unlikely that the City will be able to meet their wasteload allocation under their current operation, additional data may need to be collected in the future to evaluate the thermal effects of new Treatment Plant operation. The type and location of data to be collected will in large part be determined by the proposed changes to the current operation.

Comments from: Jason Seals, Assistant District Fish Biologist, Oregon department of Fish and Wildlife. Received 12/5/08

ODFW Comment 1: The map in Figure 3-2 appears to identify Rowena Creek, Campbell Creek and Browns Creek as salmon and steelhead spawning habitat. Corrections should be made to properly label this map to:

- Identify Rock Creek as spawning habitat, not Campbell Creek.
- Rowena Creek is not fish bearing
- Browns Creek is spawning habitat but is a tributary of Chenowith Creek, which is not labeled.
- Lower Mosier Creek from Mosier Falls downstream is salmon and steelhead bearing

DEQ Response*: Figure 3-2 is taken straight from Figure 160B in OAR 340-041-0028, which was adopted by the Environmental Quality Commission in December 2003 as part of DEQ's updated Temperature Criteria Rules. Most of the corrections noted above have been made and were the result of either the poor quality of the figure in the TMDL or limited space available for placement of stream labels in the figure. Corrections have been made as follows:

- Rock Creek is identified on Figure 3-2 rather than Campbell Creek as spawning habitat
- Rowena Creek is designated as being fish bearing in Figures 160A and 160B in OAR 340-041-0028, with a spawning time of year from January 1-May 15. If local ODFW staff believe that this is incorrect, than you can work with DEQ staff to make sure this correction is incorporated in the next Rule revision.
- Both Browns Creek and Chenoweth Creek are now labeled on Figure 3-2.
- Lower Mosier Creek was identified for salmon and steelhead spawning from October 15-May 15 on Figure 3-2. This may not have been obvious in the draft TMDL because of the poor quality of the Figure. The quality should be improved in the final TMDL. Moiser Creek has also been labeled.

ODFW Comment 2: Sections 3.7.2 and 3.8.4 discuss the temperature effects of Crow Creek Reservoir on the South Fork of Mill Creek. Based on the data shown in this draft report, Crow Creek Reservoir most certainly produces a warming effect to the South Fork Mill Creek. The draft report states "the increase in temperatures above the reservoir late in



the season does not appear to be reflected in a related increase in downstream temperatures which causes the numeric criterion to be exceeded.” The data may not show a direct relationship to increased temperatures from the reservoir because of the large proportion of water that is diverted from the South Fork of Mill Creek into The City of The Dalles Wicks Water Treatment Plant. The draft report states that the Wicks Plant diverts 45% to 98% of the flow in the South Fork Mill Creek and figure 3-12 shows nearly all of the flow diverted in August and September. Therefore, the ODFW questions the approach by the draft report to assessing the influence of reservoir warming to the South Fork Mill Creek below Crow Creek Dam, due to the high proportion of water diversion to the Wicks Treatment Plant. If the South Fork of Mill Creek was not heavily diverted at the Wicks Diversion, it is highly likely that water temperatures downstream would be influenced.

DEQ Response*: In the evaluation of the effects Crow Creek Reservoir and the Wicks Water Treatment plant diversion/discharge, DEQ evaluated the best available data. DEQ agrees that is somewhat challenging to assess the influence of reservoir warming on downstream Mill Creek temperatures using the 1999 and 2000 data because no data was collected in either year at a monitoring point upstream of the Wicks Water Treatment Plant diversion and discharge. Based on the data collected in 2005, it appears that South Fork Mill Creek temperatures increase by 2-3°C between the point of diversion and the confluence with North Fork Mill Creek. Assuming this same relationship in 1999 and 2000, the anthropogenic heating that might occur as a result of the dam beginning in mid-late August would still not cause South Fork Mill Creek temperatures at the Wicks diversion to exceed the 18°C biological criterion. Below this point, the creek heats up substantially due to the combined effects of the diversion and the discharge.

The analysis described above was not included in the draft TMDL. This discussion has been added to Section 3.7.2 to further support DEQ’s comment that “the increase in temperatures above the reservoir late in the season does not appear to be reflected in a related increase in downstream temperatures which causes the numeric criterion to be exceeded.” While DEQ believes this is the case based on the available data, we also agree that it would be helpful to have additional data collected to better assess the flow and temperature impacts of the dam. We will ask the City to include the necessary data collection as part of their TMDL Implementation Plan (see DEQ’s response to CRK’s Question 13).

ODFW Comment 3: Throughout 1999 and 2000, the data shows an overall dramatic temperature difference (~5-10°C) from the monitoring locations upstream of Crow Creek Reservoir downstream to the monitoring location in the South Fork Mill Creek upstream of it’s confluence with the North Fork Mill Creek and temperatures exceeding the standard for spawning and rearing temperatures for most of the summer (Figures 3-9 and 3-10). The ODFW is concerned with these temperatures due to the importance of the South Fork Mill Creek to spawning and rearing of steelhead and spawning and rearing of Chinook and coho in the main stem of Mill Creek. We recommend ODEQ further assess the aggregate impacts of Crow Creek Reservoir, the Wicks Water Treatment Plant water diversion, and Wicks Water Treatment Plant on the natural stream temperature regime of the South Fork Mill Creek. This data is necessary so proper decisions, permitting, and management actions can occur in the future.



DEQ Response: As stated above, DEQ will work with the City to develop a monitoring strategy to further assess the impacts of the reservoir during the development of their nonpoint source TMDL Implementation Plan. DEQ will also work with the City in the development of their new NPDES permit, which could include additional temperature monitoring or modeling to assess the thermal impacts of their discharge at the Wicks Treatment Plant (also see DEQ's response to CRK's Question 14). While DEQ agrees that a full assessment of the aggregate impacts on the natural stream temperature regime of South Fork Mill Creek would be useful for guiding future activities, we do not have the resources to do such an analysis at this time.

Comments from: Ron Graves, District Manager, Wasco County Soil and Water Conservation District. Received 11/24/08

SWCD Comment 1: Section 4.4 References pp88-89: you can add a link to the Watershed Assessments as follows:

Mosier

<http://www.wasco.oacd.org/MosierWatershedAssessment.pdf>

Fifteenmile

<http://www.wasco.oacd.org/15mileWatershedAssessment.pdf>

The Dalles

<http://www.wasco.oacd.org/TheDallesWatershedAssessment.pdf>

DEQ Response*: The reference section was updated to include the links provided.

Comments from: Mark Fillipini, TMDL Project Manager, U.S, Environmental Protection Agency Region 10. Received 12/3/08

Thank you for the opportunity to review and comment on the draft Middle Columbia – Hood (Miles Creeks) Subbasin TMDL that was released for public comment on October 6, 2008. The TMDLs address temperature impairments in the Miles Creeks Subbasin in Oregon. This letter presents the Environmental Protection Agency (EPA) Region 10's comments on the TMDL; there are two.

EPA Comment 1: Page 36. Point Sources of Heat. The first paragraph states that stormwater was not considered significant as a temperature source; therefore, no load or wasteload allocations are given. This could be considered to be a zero WLA, creating confusion for future permit writers. It may be better to consider the WLA to be negligible, though not specified, and included in the analysis based on current conditions.



DEQ Response*: DEQ has added additional language into the waste load allocation section 3.8.2. for clarification. It now reads:

“As discussed in Section 2.4.2, it was determined that facilities with a general stormwater permit did not have a reasonable potential to impact stream temperatures. Therefore, these facilities are allocated their current heat load. The facilities’ impact is expected to be negligible but may utilize the 0.2 °C point source human use allowance should future analysis indicate otherwise.” In addition, when existing facilities renew their stormwater permit, or if a new facility applies for a stormwater permit, DEQ will evaluate the stormwater management plan to ensure consistency with this TMDL.”

EPA Comment 2: Page 44. Pagination and text flow seems to be in error between pages 44 to 46.

DEQ Response*: This error has been corrected.

The following are comments received in their entirety:

City of the Dalles

-----Original Message-----

From: Richard Gassman [mailto:rgassman@ci.the-dalles.or.us]

Sent: Wednesday, October 08, 2008 3:37 PM

To: LAMB Bonnie

Subject: RE: Miles Creek TMDL Public Comment

Bonnie, one preliminary item. On page 73 you begin a list of various entities having some jurisdictional authority in the study area. On page 74 you list the City of The Dalles as having responsibility for parks, among other things. The City of The Dalles does not own or operate any parks or park land. There is a separate Park District called Northern Wasco County Park and Recreation District with headquarters at 319 E 7th in The Dalles. Phone is 541-296-9533. It operates all parks located within the City limits. I mention this now as you may want to add them to your mailing list and give them an opportunity to comment on the draft report.



Columbia River Keepers

December 5, 2008

Ms. Bonnie Lamb
Oregon Department of Environmental Quality
300 SE Reed Market Rd.
Bend, OR 97702

Lamb.bonnie@deq.state.or.us
Via Electronic Mail

RE: Proposed Temperature TMDL and Water Quality Management Plan for the Middle Columbia-Hood (Miles Creek) Subbasin

Dear Ms. Lamb,

Columbia Riverkeeper submits these comments on the proposed temperature TMDL and Water Quality Management Plan for the Middle Columbia-Hood (Miles Creek) Subbasin (collectively “Draft TMDL”). Columbia Riverkeeper (“CRK”) is a non-profit organization with a mission of protecting and restoring the water quality of the Columbia River and all life connected to it. CRK headquarters are Hood River, Oregon. Many of CRK’s members, and most of CRK’s staff, reside in the Miles Creek Subbasin. As DEQ is aware, CRK operates an extensive volunteer water quality monitoring program. Our program includes multiple monitoring sites within the Miles Creek Subbasin. CRK contributes data collected from the water quality monitoring program to DEQ’s water quality databases. On a regular basis, CRK comments on general and individual NPDES permits impacting the Columbia and tributaries. These comments often address compliance with Oregon’s temperature water quality standards and narrative criteria.

Salmon and other cold-water species depend on cold water temperature for survival and recovery. Excessive temperature impacts salmon metabolism, growth rate, and disease resistance, as well as the timing of salmonid migrations, fry emergence, and smoltification. Salmon in the Columbia River and its tributaries suffer from the extremely high water temperatures during the summer months. Excess temperature is one reason for the decline of the salmon.

CRK respectfully submits these comments and questions on the draft TMDL and WQMP. CRK greatly appreciates the assistance of DEQ staff in the public commenting process. Thank you in advance for considering these comments.

Background on Federal and State Law Protecting Water Quality.

Congress passed the Clean Water Act in 1972 to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” 33 U.S.C. § 1251(a). Congress set a national goal “that the discharge of pollutants into navigable waters be eliminated by 1985.” *Id.* Similarly, the Oregon Legislature has declared that “pollution of the waters of the state constitutes a menace to public health and welfare.” ORS 468B.015. The legislature declared a public policy: 1) to conserve the waters of the state; 2) to protect, maintain and improve the quality of the waters of the state; and 3) to provide that no waste be discharged into any waters of the state without first receiving necessary treatment or other corrective action to protect the legitimate beneficial uses of waters of the state. *Id.* Congress and the Oregon legislature made clear that limiting the amount of pollution discharged into a river is critical to restoring our waterways.

The CWA requires EPA to delegate implementation of the CWA’s permitting program to qualified states. 33 U.S.C. § 1342(b). As a delegated permitting authority, Oregon must comply with the CWA and its



implementing regulations, along with state law. *Id.*; OAR 340-045-0015(5)(c). Under the CWA, Oregon may create more stringent requirements than the CWA, but Oregon “may not adopt or enforce any effluent limitation . . . which is less stringent than the effluent limitation[s] [in the Clean Water Act].” 33 U.S.C. § 1370(1)(B).

A. Water Quality Standards Protect and Improve the State’s Water Bodies.

Water quality standards are the foundation of the CWA and Oregon's efforts to protect clean water. Water quality standards represent DEQ’s determination, based on scientific studies, of the thresholds at which pollution starts to cause significant adverse effects on fish or other beneficial uses. As recognized by the Oregon Supreme Court, the purpose of water quality standards is “to protect, maintain, and improve the state's water quality and fish propagation and other beneficial uses and to prevent new water pollution.” *City of Klamath Falls v. Environmental Quality Comm'n*, 319 Or. 532, 546 (1994).

NPDES permits must comply with Section 402 of the Clean Water Act. Section 402 states that “the Administrator may . . . issue a permit for the discharge of any pollutant . . . upon the condition that the discharge will meet either (A) all applicable requirements under section 1311,1312, 1316, 1317, 1318, and 1343 of this title, or (B) . . . such conditions as the Administrator determines are necessary to carry out the provisions of this chapter.” 33 U.S.C. § 1342. Additionally, EPA regulations prohibit the issuance of any permit “when the conditions of the permit do not provide for compliance with the applicable requirements of the CWA, or regulations promulgated under the CWA.” 40 C.F.R. § 122.4(d).

EPA regulations require that the effluent limitations incorporated in the permit meet any additional standards and state requirements. Specifically, “each NPDES permit shall include conditions meeting [w]ater quality standards and state requirements.” *Id.* Required effluent limitations “must control all pollutants or pollutant parameters (either conventional, nonconventional or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including state narrative for water quality.” 40 C.F.R. § 122.44(d)(1)(i).

B. TMDLs and WQMPs Protect and Improve Water Quality.

The federal Clean Water Act expressly requires TMDLs to achieve compliance with water quality standards. *See* 33 U.S.C. § 1313(d)(1)(A)-(D). EPA’s implementing regulations set forth the process and requirements for establishing a TMDL. *See* 40 CFR § 130.7. Oregon law provides that it is the public policy of the State to protect, maintain and improve water quality. OAR 340-042-0025. Specifically, OAR 340-042-0025(1) provides:

The public policy of the State of Oregon is to protect, maintain and improve the quality of waters of the state for beneficial uses and to provide for prevention, abatement and control of water pollution. To achieve and maintain water quality standards, the Environmental Quality Commission may impose limitations and controls including Total Maximum Daily Loads (TMDLs), wasteload allocations for point sources and load allocations for nonpoint sources.

Compliance with NPDES permits and other implementation strategies is at the heart of improving water quality in streams, lakes, and rivers that currently violate state water quality standards. OAR 340-042-0025(2) expressly provides that:

The policy of the Environmental Quality Commission is to have the Department of Environmental Quality establish TMDLs, including wasteload and load allocations, and have responsible sources meet these allocations through compliance with discharge permits or other strategies developed in sector or



source-specific implementation plans. These measures must achieve and maintain water quality standards and restore waters of the state that are water quality limited.

Thus, TMDLs and WQMPs are vital to improving water quality and the species that depend on aquatic systems. The Clean Water Act, federal implementing regulations and Oregon law sets forth the criteria DEQ must rely in creating a TMDL and WQMP.

OAR 340-042-0040 lays out the elements that DEQ must include in establish TMDLs. Specifically, OAR 340-042-0040(4)(f) describes the “source or sources categories.” OAR 340-042-0040(4)(f) states:

This element identifies the pollutant sources and estimates, to the extent existing data allow, the amount of actual pollutant loading from these sources. The TMDL will establish wasteload allocations and load allocations for these sources. The Department will use available information and analyses to identify and document sources.

OAR 340-042-0040(4)(g) requires wasteload allocations for existing point sources. This includes “all point source dischargers regulated under the [CWA].” OAR 340-042-0040(4)(g). OAR 340-042-0040(4)(f) provides for the “load allocations” element, which addresses “the portions of the receiving water's loading capacity that are allocated to existing nonpoint sources of pollution or to background sources.”

II. Comments and Questions on the Draft Proposed Temperature TMDL and Water Quality Management Plan for the Middle Columbia-Hood (Miles Creek) Subbasin.

1. Stormwater.

The Draft TMDL addresses point sources of heat, including stormwater. The Miles Creek Subbasin includes urban areas. The National Research Council recently issued an exhaustive report on the impacts stormwater runoff. According to the National Research Council, “[s]tormwater runoff from the built environment remains one of the great challenges of water pollution control, as this source of contamination is a principal contributor to water quality impairment of waterbodies nationwide.” *Urban Stormwater Management in the United States*, National Research Council (Oct. 15, 2008), available online at: http://www.epa.gov/npdes/pubs/nrc_stormwaterreport.pdf. Importantly, the NRC Report discusses the multidimensional impacts of stormwater: “In addition to entrainment of chemical and microbial contaminants as stormwater runs over roads, rooftops, and compacted land, stormwater discharge poses a physical hazard to aquatic habitats and stream function, owing to the increase in water velocity and volume that inevitably result.” *Id.*

Stormwater runoff can cause direct and indirect thermal pollution. Stormwater can cause extensive erosion, alter stream channels and degrade riparian habitat. In turn, stormwater can increase solar impacts on waterbodies. Stormwater can also induce temperature spikes. Low impact development (LID) techniques, such as greenroofs and porous pavements, reduce the quantity of impervious surfaces in a watershed and can improve thermal impacts on waterbodies. DEQ’s Draft TMDL acknowledges the important role of groundwater in achieving the state’s temperature water quality standards. By encouraging LID, temperature impacts result by: (1) recharging groundwater that feeds streams, rivers and lakes and (2) reducing the habitat alteration impacts that result from the velocity of stormwater inputs to a system. Many studies examine the connection between impervious surfaces, stormwater and temperature. *See for example* Attachment A (available online at <http://www.epa.gov/nps/natlstormwater03/08Dorava.pdf>); Stormwater Temperature Monitoring in Federal Way, Washington, available online at:



<http://www.stormh2o.com/july-august-2006/stormwater-temperature-monitoring.aspx>; The Effectiveness of Rock Cribs in Reducing Stormwater Temperature Runoff, available online at: <http://asae.frymulti.com/abstract.asp?aid=17126&t=2>; J.C. Denardo et al., *Stormwater Mitigation and Surface Temperature Reduction by Green Roofs*, vol. 48 no. 4 pp. 1491-1496 (2005).

EPA's website contains extensive information on the important role of LID in improving water quality. EPA Website on Green Infrastructure, http://cfpub.epa.gov/npdes/home.cfm?program_id=298. Green infrastructure practices include rain gardens, porous pavements, greenroofs, infiltration planters, riparian buffers and stormwater treatment. See EPA Website, Green Infrastructure – Technologies and Approaches, <http://cfpub.epa.gov/npdes/greeninfrastructure/technology.cfm> (providing detailed information and reports on multiple green infrastructure approaches to managing stormwater in sensitive habitats).

The Miles Subbasin TMDL briefly addresses stormwater. Page 36 of the Draft TMDL states: Stormwater discharges were determined to not be significant contributors of heat during the critical period over a seven day period as specified in the temperature standard. This determination was based on the amount of summer rainfall in Table 2-1 (June – September), and the frequency of rain during the same period for the entire data record . . . Stormwater permits are not mentioned further in this TMDL. If at a later date they are identified to be significant sources of heat they will be addressed during the next TMDL revision.

Question 1: Where in federal or state law is “significant source of heat” a criteria for including or excluding a source from a TMDL or WQMP? Please explain.

Question 2: Did DEQ consider, or will DEQ now consider, the thermal impacts caused by stormwater that lead to channel alternation, degraded riparian shade, and erosion? Please explain.

Question 3: Did DEQ consider, or will DEQ now consider, acute thermal impacts from stormwater sources? Please explain.

Page 80 - 81 of the Draft TMDL discusses municipal implementation plans. DEQ also discusses the current status of plans and notes what management strategies the municipalities could include. The Draft TMDL states: “Management strategies could include: landowner education about riparian protection, evaluation of roads located along perennial streams for impediments to load allocation attainment, restoration of river shading and/or channel condition on County/City owned properties, and consideration of riparian protection ordinances.”

Question 4: Did DEQ consider, or will DEQ now consider, including LID as a management strategy that municipalities could include in an implementation plan? Please explain.

2. Groundwater.

DEQ acknowledges the impacts of groundwater on stream temperature in the Draft TMDL. DEQ's 2002 Western Hood Basin TMDL contains a more extensive discussion of groundwater. In particular, the Western Hood Basin TMDL notes the value of data on thermal impacts from temperature in creating and revising TMDLs. Specifically, page 54 of the Western Hood Basin TMDL states:

Groundwater inflow has a cooling effect on summertime stream temperatures.

Subsurface water is insulated from surface heating processes. Groundwater temperatures fluctuate little and typically cool . . . Many land use activities that disturb riparian vegetation and associated flood plain



areas may affect the surface water connectivity to groundwater sources. Groundwater inflow not only cools summertime stream temperatures, but also augments summertime flows. Reductions or elimination of groundwater inflow will have a compounding warming effect on surface water. The ability of riparian soils to capture, store and slowly release groundwater is largely a function of floodplain/riparian area health.

The Western Hood Basin TMDL goes on to state that DEQ did not analyze groundwater in the TMDL effort. The Western Hood Basin TMDL states:

The data required to completely assess thermal effects of groundwater, such as forward-looking infrared radiometry (FLIR) have not been collected in the Western Subbasin . . . ODEQ recommends such data collection for future groundwater/stream analysis.

Question 5: Did DEQ analyze groundwater in the Miles Creek Subbasin Draft TMDL? Please explain.

Question 6: Did DEQ consider, or will DEQ now consider, recommending groundwater data collection for the Miles Creek Subbasin TMDL? Please explain.

3. Timeline for Implementation.

Threats facing Columbia River salmon and steelhead are severe by any measure. The TMDL and the permit requirements it produces are critical to protecting and recovering multiple salmonids listed as threatened and endangered under the federal Endangered Species Act. In short, time is of the essence. Columbia Riverkeeper is concerned with the timeframe for complying with state water quality standards and improving water temperature in the Miles Creek Subbasin. DEQ identified the Wicks Water Treatment Plant a significant source of temperature violations in the Draft TMDL. Page 76 of the Draft TMDL states:

Because the City will also need to develop an Implementation Plan to cover their nonpoint source activities (as described below), DEQ expects that the City will likely develop on Implementation Plan that will cover both their point and nonpoint source impacts. This Plan will be due to DEQ within 18 months of issuance of the TMDL and DEQ expects that it will outline a schedule for achieving compliance with the TMDL at the Wicks Water Treatment Plant discharge.

Question 7: What authority does DEQ rely in generating the 18 month timeline? How does this timeline comport with the requirements of the federal Clean Water Act, implementing regulations and Oregon law? Please explain.

Question 8: After DEQ receives the Implementation Plan, does DEQ have a timeline for issuing the individual NPDES permit? Please explain.

Question 9: Does DEQ anticipate that the new, individual NPDES permit will contain a compliance schedule for temperature? Please explain.

The Draft TMDL also addresses the schedule for preparation and submission of other Implementation Plans. The Draft TMDL states: “DEQ expects that DEQ, the USFS Wasco County, The Dalles, Dufur and Mosier will fulfill the planning and evaluation expectations of Element H within 18 months of the date of their notification letter.”



Question 10: What authority does DEQ rely on in generating the 18 month timeline? How does this timeline comport with the requirements of the federal Clean Water Act, implementing regulations and Oregon law? Please explain.

6. Water Withdrawals.

DEQ identifies water withdrawals and impacts on temperature in the Miles Creek Subbasin.

Question 11: Has DEQ considered, or will DEQ now consider, assessing the impact of water withdrawals on temperature in the subbasin? Please explain.

Question 12: Has DEQ addressed water withdrawals or noted the points at which water is withdrawn in other TMDLs? Please explain.

5. Monitoring.

Increased temperature monitoring data is crucial to understand thermal impacts in the basin and improve water quality. Draft TMDL page 55 states: “While Crow Creek dam also received a portion of the nonpoint source HUA, an individual allocation might be determined for Crow Creek Dam if sufficient data were available. Since this data does not currently exist, the Dam allocation falls within the nonpoint HUA.”

Question 13: Will DEQ require operators of the Crow Creek Dam to conduct temperature monitoring? If not, will DEQ conduct temperature monitoring to ensure that sufficient data is available in the future? Please explain.

The Draft TMDL contains extensive discussion on the impact of the Wicks Water Treatment Plan. DEQ bases its analysis on data collected in the summer of 2005. At that time, treatment plant discharge increased stream temperatures by as much as 2 degrees during the summer. *See* Draft TMDL at 76. Columbia Riverkeeper commends DEQ for recommending that the Wicks Water Treatment Plant obtain an individual NPDES permit.

Question 14: Given the significant impacts described in the 2005 data, does DEQ plan to increase monitoring of the temperature impacts of the Wicks Water Treatment Plant (WWTP)? In the interim (i.e. before WWTP obtains a permit), will DEQ require temperature monitoring to assist DEQ in drafting the NPDES permit? Please explain

Conclusion.

Columbia Riverkeeper recognizes that DEQ’s staff exerts a significant amount of time, thought and effort in preparing a TMDL. Thank you in advance for considering Columbia Riverkeeper’s comments on the Draft TMDL. If you have any questions, please contact me at 541-965-0985.

Regards,
/s/ Lauren Goldberg

Lauren Goldberg
Conservation Director
Columbia Riverkeeper
724 Oak St.
Hood River, OR 97031
lauren@columbiariverkeeper.org



Columbia River Keepers – Attachment A

Dorava, J.M., Espinosa, A.R., Johnson, K. and D. Severson. 2003. Enhancing Storm Water Infiltration to Reduce Water Temperature Downstream. Proceedings from the EPA National Conference on Urban Storm Water: Enhancing Programs at the Local Level. Chicago, IL February 17-20, 2003. Accessible at <http://www.epa.gov/nps/natlstormwater03/08Dorava.pdf>



Oregon Department of Fish and Wildlife, Mid Columbia District

The following are comments submitted to the Oregon Department of Environmental Quality on the draft Middle Columbia Hood Subbasin TMDL by the Oregon Department of Fish and Wildlife, Mid Columbia District.

The map in Figure 3-2 appears to identify Rowena Creek, Campbell Creek and Browns Creek as salmon and steelhead spawning habitat. Corrections should be made to properly label this map to:

- Identify Rock Creek as spawning habitat, not Campbell Creek.
- Rowena Creek is not fish bearing
- Browns Creek is spawning habitat but is a tributary of Chenoweth Creek, which is not labeled.
- Lower Mosier Creek from Mosier Falls downstream is salmon and steelhead bearing

Sections 3.7.2 and 3.8.4 discuss the temperature effects of Crow Creek Reservoir on the South Fork of Mill Creek. Based on the data shown in this draft report, Crow Creek Reservoir most certainly produces a warming effect to the South Fork Mill Creek. The draft report states “the increase in temperatures above the reservoir late in the season does not appear to be reflected in a related increase in downstream temperatures which causes the numeric criterion to be exceeded.” The data may not show a direct relationship to increased temperatures from the reservoir because of the large proportion of water that is diverted from the South Fork of Mill Creek into The City of The Dalles Wicks Water Treatment Plant. The draft report states that the Wicks Plant diverts 45% to 98% of the flow in the South Fork Mill Creek and figure 3-12 shows nearly all of the flow diverted in August and September. Therefore, the ODFW questions the approach by the draft report to assessing the influence of reservoir warming to the South Fork Mill Creek below Crow Creek Dam, due to the high proportion of water diversion to the Wicks Treatment Plant. If the South Fork of Mill Creek was not heavily diverted at the Wicks Diversion, it is highly likely that water temperatures downstream would be influenced.

Throughout 1999 and 2000, the data shows an overall dramatic temperature difference (~5-10⁰C) from the monitoring locations upstream of Crow Creek Reservoir downstream to the monitoring location in the South Fork Mill Creek upstream of it’s confluence with the North Fork Mill Creek and temperatures exceeding the standard for spawning and rearing temperatures for most of the summer (Figures 3-9 and 3-10). The ODFW is concerned with these temperatures due to the importance of the South Fork Mill Creek to spawning and rearing of steelhead and spawning and rearing of Chinook and coho in the main stem of Mill Creek. We recommend ODEQ further assess the aggregate impacts of Crow Creek Reservoir, the Wicks Water Treatment Plant water diversion, and Wicks Water Treatment Plant on the natural stream temperature regime of the South Fork Mill Creek. This data is necessary so proper decisions, permitting, and management actions can occur in the future.



Wasco County Soil Water Conservation District

-----Original Message-----

From: Graves, Ron - The Dalles, OR [mailto:Ron.Graves@or.nacdn.net]
Sent: Monday, November 24, 2008 11:45 AM
To: Bonnie Lamb
Subject: Miles Creeks Temperature TMDL

Section 4.4 References pp88-89:

you can add a link to the Watershed Assessments as follows:

Mosier

<http://www.wasco.oacd.org/MosierWatershedAssessment.pdf>

Fifteenmile

<http://www.wasco.oacd.org/15mileWatershedAssessment.pdf>

The Dalles

<http://www.wasco.oacd.org/TheDallesWatershedAssessment.pdf>

Ron Graves

District Manager

Wasco County SWCD

Web Page: <http://wasco.oacd.org>

541 296-6178 ext. 114



Environmental Protection Agency (EPA)



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10**

1200 Sixth Avenue, Suite 900
Seattle, Washington 98101-3140

Reply To: OWW-134

December 3, 2008

Ms. Bonnie Lamb
Oregon Department of Environmental Quality
475 NE Bellevue Drive, Suite 110
Bend, OR 97701

Subject: Draft Middle Columbia – Hood (Miles Creeks) Subbasin Total Maximum Daily Load (TMDL), October 2008

Dear Bonnie:

Thank you for the opportunity to review and comment on the draft Middle Columbia – Hood (Miles Creeks) Subbasin TMDL that was released for public comment on October 6, 2008. The TMDLs address temperature impairments in the Miles Creeks Subbasin in Oregon. This letter presents the Environmental Protection Agency (EPA) Region 10's comments on the TMDL; there are two.

Comments:

Page 36. Point Sources of Heat. The first paragraph states that stormwater was not considered significant as a temperature source; therefore, no load or wasteload allocations are given. This could be considered to be a zero WLA, creating confusion for future permit writers. It may be better to consider the WLA to be negligible, though not specified, and included in the analysis based on current conditions.

Page 44. Pagination and text flow seems to be in error between pages 44 to 46.

EPA wishes to acknowledge the exceptional technical work and effort Oregon Department of Environmental Quality (DEQ) staff have put forth in developing these TMDLs. They are well presented and technically well prepared.



EPA Region 10 appreciates the opportunity to comment on this document. We hope these comments will be helpful and we look forward to the submittal of the final TMDL in the near future. If you have any questions or comments, please contact me at (206) 553-6327.

Sincerely,

/s/

Mark G. Filippini
Watershed Unit
Office of Water and Watersheds

cc: Gene Foster, ODEQ