

Lower Sucker Creek

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

Response to Public Comment

*Prepared by:
Oregon Department of Environmental Quality
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Introduction

This Response to Public Comments addresses comments and questions received regarding the Draft Lower Sucker Creek Total Maximum Daily Load (TMDL) and Water Quality Management Plan (WQMP) dated October, 2001.

List of Commentors

The following individuals and organizations provided comments on the Lower Sucker Creek TMDL/WQMP during the Public Comment Period from October 5 through December 14, 2001. Six oral comments were received and recorded at a public meeting and hearing held at the Josephine County building in Cave Junction, Oregon on November 13, 2001. Ten additional comments were received by the DEQ during the public comment period (either FAXED, mailed, or e-mailed).

| Code | Commentors | Date Received | Format of Comments | Format Available |
|-------------|---|----------------------|---------------------------|-------------------------|
| EB | Ernie Brodie | 11/13/01 | Oral | Digital |
| RN-SProj | Rich Nawa from the Siskiyou Project | 11/13/01 & 12/14/01 | Oral and Written | Digital |
| RN-98 | Rich Nawa from the Siskiyou Project dated 1/11/98 | 12/14/01 | Written | Digital |
| CP | Carl Pope | 11/13/01 | Oral | Digital |
| RS | Ron Smith | 11/13/01 | Oral and Written | Hardcopy |
| JN | Jim Nolan | 11/13/01 | Oral | Digital |
| TK | Tom Kitchner, Walso Mining District | 11/13/01 | Oral | Digital |
| JOCO | Michael Snider, Josephine County | 11/27/01 | Written | Hardcopy |
| NEDC | Kathleen Hitt, Northwest Environmental Defense Center | 12/08/01 | E-mail | Digital |
| BLM | BLM representatives: Denise Dammann and Abbie Josse | 12/12/01 | Written | Digital |
| EPA-TC | Tracy Chellis, US-Environmental Protection Agency | 12/13/01 | E-mail | Digital |
| R&R | Lincoln Phillippi, Rough and Ready Lumber Co. | 12/14/01 | Written | Hardcopy |
| OCA | Pat Larson, Oregon Cattleman's Assoc. | 12/14/01 | E-mail | Digital |
| SREP | Lori Cooper, Siskiyou Regional Education Project (SREP) | 12/14/01 | Written | Digital |
| SOTIA | Dave Hill, Southern Oregon Timber | 12/14/01 | Written | Hardcopy |

All comments received have been considered by DEQ and addressed in this document. Some of the comments received overlap and can be addressed with a single answer. Other comments require modifications be made to the TMDL or WQMP. DEQ has attempted to answer all

relevant comments received. A copy of this responsiveness summary has been submitted to EPA as part of the TMDL-WQMP packet.

The quantity and quality of comments received reflects the interest in this TMDL and WQMP. DEQ appreciates the time and effort that all commentors have put into reviewing the documents. The comments received have contributed to making the TMDL/WQMP a better document and a better plan.

As with any analysis there is some uncertainty in the Lower Sucker Creek TMDL. It is DEQ's opinion that the acknowledgement of such uncertainty should not be used to delay the implementation of much needed improvements in the watershed. Local, state, and federal agencies responsible for implementing the allocations in the TMDL need to be able to adjust their programs and implementing mechanisms over time as new monitoring information becomes available, and changes in water quality standards or land management practices occur. To facilitate these changes, DEQ employs an adaptive management approach for this TMDL. We recognize the need for a mechanism to change the TMDL and WQMP as we learn more while at the same time moving forward with implementation measures that will improve water quality.

General Comments

1.1 Comments, RS: The draft TMDL does not address the economic impact of the proposed restoration measures.

Response: An economic analysis is not a required component of a TMDL. Appendix E of the WQMP does provide a brief discussion of potential sources of funding.

1.2 Comments, JOCO: The reason I am writing this letter is to address a critical assumption repeated often in the Lower Sucker Creek plan, where it reports that Josephine County will be the designated management agency. It appears the county is expected to develop its own TMDL plan consistent with your plan, implement it and then monitor progress toward achieving the water quality standards contained in the plans.

Response: In clarification of the DEQ's recognition of Josephine County as a designated management agency (DMA), OAR 340-041-0120-11(e)(D) states that "In urban areas, the Department will work with appropriate state, county, municipal, and special district agencies to develop surface water temperature management plans that reduce thermal loads in basins, watersheds, or stream segments associated with the temperature violations so that the surface water temperature criteria are achieved." The county is recognized as having the authority to regulate land use and protect riparian areas for those lands under its jurisdiction and legal authority. As such, the county is expected to develop an Implementation Plan consistent with the elements described in WQMP Section 1 "Required Elements of a WQMP."

The DEQ does not intend that Josephine County exert authority in areas where statutory authority does not exist – specifically in the regulation of forest and agricultural practices. We also appreciate the difficulty in distinguishing these authorities in rural areas. Language has been added to the Draft Lower Sucker Creek TMDL to more clearly describe Josephine County's authority. The following language has been added to the WQMP Section 1 (page 35 in Draft WQMP).

DMA: Josephine County. Urban/Non-resource land uses will be covered in the Implementation Plan for Josephine County to the extent of their authority. (underlined section added. Similar additions have been made to all references to Josephine County).

1.3 Comments, NEDC: The foreseeable failure of the WQMP is evidenced on page 62 of the draft. At the time of the release of the draft WQMP, Josephine County had not provided a specific management plan to the DEQ. This can be taken as a sign of their half-hearted commitment to the plan. Furthermore, the management plans chosen “will be at the discretion of Josephine County.” (p. 62 draft WQMP). This does not provide for a reasonable assurance that the county will chose to implement the necessary management measures versus the most convenient, least expensive measures.

1.4 Comments, EPA: Of the agencies with jurisdiction to carry out implementation actions in this WQMP, there is a void for local government. Josephine County is identified as having jurisdiction but there is no indication that they are yet involved. There is a restoration strategy for 20 stream reaches of Lower Sucker Creek in lands under the jurisdiction of Josephine County, proposed by Hydro Dynamics as an example of how the creek can be restored. Many of the proposed ideas for these reaches are likely to improve temperature and habitat conditions. But there is no indication whether the County is in favor of this approach or some other. At the very least there should be a commitment from Josephine County to develop a detailed implementation plan and carry out the activities as identified in Table 8.

Response to 1.3 and 1.4: The Department is currently working with Josephine County to ensure an adequate Implementation Plan is submitted in response to the TMDL/WQMP. It is our intention that upon approval of the TMDL, the Department will work as expeditiously as practicable with Josephine County to develop or revise management plans in order to meet the load and waste load allocations, typically within 1-2 years. The implementation plan will provide detail on the approach the county will take to identify and implement management measures, schedules, interim milestones, and monitoring plans.

1.5 Comments, RN-Sproj: Most of the comments from my 11 January 1998 have not been addressed. Submitted copy of comments dated Jan 11, 1998 to J Blanchard regarding Upper Sucker Creek.

Response: The comments submitted in 1998 have been re-evaluated as to their applicability to the current draft TMDL; responses to the appropriate comments are given in this document.

1.6 Comments, NEDC: As one of the first TMDLs done utilizing surrogate measures in lieu of pollutant loads, this TMDL represents a potential template for others.

Response: The use of surrogate measures is specifically authorized by EPA. DEQ commonly uses surrogates in the TMDLs submitted and under development statewide.

1.7 Comment: SREP: One of SREPs primary objections to the TMDL and WQMP is the lack of any site-specific data in the analysis of the TMDL and the prescriptions that are necessary to achieve the allocations. The result of this approach is a TMDL that could be applied to any geographic area in Oregon where water bodies are temperature-limited. As such, the TMDL becomes an analytical restatement of water quality standards in surrogate form. While this is a very important first step -, it is nonetheless just a first step and is not sufficient to constitute a TMDL.

Response: DEQ does not agree with the description of this TMDL as being non-specific. It was developed using large amounts of data gathered from the Lower Sucker Creek watershed; the load allocations-while similar to those of other degraded watersheds in Oregon-are nevertheless specific to Lower Sucker Creek.

1.8 Comments, EPA: Page i, Water Quality and TMDL Summary. The Executive Summary makes reference to the Sucker/Grayback TMDL. In order to make a connection with the Lower Sucker TMDL and the Sucker/Grayback TMDL, we recommend that a more detailed explanation of the Sucker/Grayback TMDL be included in the Executive Summary. An explanation that the Sucker/Grayback TMDL only covered Federal lands and not private lands, and that the Lower Sucker TMDL will cover the private lands not addressed in the Sucker/Grayback TMDL should also

be provided here. A discussion of the heat impairments and temperature sources in the upper part of the watershed should be included to provide clarity on how the upper watershed relates to the lower portion of the watershed. In the last sentence of the first paragraph under the TMDL Summary section, the term Heat Capacity is used to describe the total allowable daily heat loading put into the system. Suggested language to make this more understandable would be: “The loading capacity is the amount of solar radiation that reaches the stream when the stream is at system potential condition in terms of riparian vegetation and channel morphology.”

Response: The recommended changes have been incorporated into the final version of the TMDL/WQMP.

- 1.9 Comments, EPA: Page iii, Lower Sucker Creek TMDL Component Summary. Waters that do not flow through federal lands above River Mile 10.4 should also be included under the “Waterbody Name(s)” definition area. The Applicable Temperature Water Quality Standards listed in the Lower Sucker Creek TMDL Component Summary should be listed similar to the Approved TMDL for Tillamook Bay Watershed (page 29 of the Tillamook Bay Watershed TMDL approved by EPA on July 7, 2001). In the “TMDL/Allocations” section the “WLA” area should include “no measurable increase” language with regard to mining activities and future point sources.

Response: The recommended changes have been incorporated into the final version of the TMDL/WQMP.

- 1.10 Comments, SREP: In combining the roles of the TMDL and the WQMP in its guidance, the Department not only undervalues the quantitative analysis of necessary solutions in the TMDL but also degrades the value of a WQMP as an implementation plan. While the Lower Sucker Creek process consists of two separate documents, the integration of the TMDL and the WQMP not only affects the quality of the TMDL, mentioned above, but limits the effectiveness of the WQMP. Indeed, the WQMP serves as 1) a restatement/clarification of the information provided in the TMDL, and 2) a declaration of the goals and objectives for the watershed, without any clear plan of implementation.

Response: DEQ does not agree that concurrent development of the TMDL and the WQMP undervalues or degrades either document. The WQMP is not meant to be a detailed implementation plan with specific targets and timelines. Development of these components is left specifically to the DMAs in the watershed. DEQ has entered into a Memorandum of Understanding with the U.S. Environmental Protection Agency Region 10 regarding TMDLs. In that MOU, Oregon agrees to provide Water Quality Management Plans along with all TMDLs submitted to EPA for approval, even though EPA does not review or approve them at this time. DEQ has agreed to develop WQMPs because we believe that they are a critical component of the effort to improve water quality and bring waterbodies into compliance with water quality standards.

- 1.11 Comments, OCA: Oregon Cattlemen’s Association has reviewed the Lower Sucker Creek TMDL and requests that it be withdrawn. The TMDL stream reaches identified do not meet the criteria described in the Clean Water Act as an appropriate stream required to have a TMDL.

- 1.12 The identified 10.4 miles of the Lower Sucker Creek. does not have any identified point source discharges or point source permits and the proposed TMDL is for stream reaches listed on the 1998 303(d) list for non point source contributions only. Therefore it should not have a TMDL set as though it were a point source stream segment.

Response to 1.11 and 1.12: DEQ does not agree with the implication that the Clean Water Act only applies to streams polluted by point sources. The Clean Water Act and the Lower Sucker Creek TMDL and WQMP encompasses both point and nonpoint pollution sources.

Public Participation

1.13 Comment: EB: there was too short an amount of time to review the draft TMDL.

Response: A public information session held November 8, 2001 in Cave Junction and the public hearing for this TMDL/WQMP was held November 13, 2001 also in Cave Junction. Both events were published in the Grants Pass Daily Courier on November 3 and in the Illinois Valley News on November 7. Drafts of the documents were available and comments accepted from October 5, 2001 through December 14, 2001. DEQ believes that there was ample time for interested parties to review and comment on the document.

1.14 Comments, NEDC: The WQMP recognizes that improving the water quality of the Lower Sucker Creek is a community wide effort, however, how does DEQ plan on involving the community? The WQMP talks vaguely about the need for community involvement and education in order to achieve the standards. However, there needs to be concrete information about how DEQ plans on reaching the public and educating them.

Response: DEQ does recognize the importance of involving the community in watershed education and restoration efforts and supports the efforts of the IVSWCD and Illinois River Watershed Council to involve the community by providing technical staff assistance and funding through the 319 grants program.

Geographic Coverage of TMDL

1.15 Comment: RN-SPROJECT: objected to the production of two TMDLs for the Sucker Creek watershed; claimed it was a waste of time and money and that the USFS got—for political reasons—their own WQMP.

1.16 Comment: RN- Sproject: The Lower Sucker Creek Plan arbitrarily limits the area discovered to private and BLM lands below the Siskiyou National Forest boundary below Grayback Creek and private lands above the Siskiyou National Forest boundary (p.37). Splitting the watershed into two units primarily based on private land ownership prevents a science-based integrated approach to watershed management. Creates unnecessary expense (e.g. 2 documents, 2 models, 2 comment periods) and is a burden on citizens who must comment on 2 plans when one plan would suffice. (See my 11 January 1998 comment letter [comment 2] for additional criticisms of splitting the watershed).

1.17 Comment: RN- Sproject: Recommendation 1: the two water quality plans should be integrated into a single document using the same models and establishing a single set of monitoring and performance standards.

1.18 Comment: NEDC: The scope of the TMDL and WQMP should incorporate the basin, rather than parts of it. While DEQ has additional TMDL and WQMPs for the remainder of the drainage, they are not incorporated into these reports. The TMDL arbitrarily excludes the Upper Sucker Creek basin. A comprehensive plan should be reflected in this report. Separate plans indicate a lack of consistency, lack of cooperation, and a lack of coherent monitoring and restoration for the basin as a whole. The necessity and reasoning for severing the plans were not addressed in the document. If this is to be a comprehensive effort, that issue should be set forth. It is contrary to efficiency to comment on only half of a proposal. Where one is lacking, the other may be sufficient. And where both may be weak, that weakness is compounded. Without framing the basin as a whole system, it is not clear what effects the Upper portion of Sucker Creek will have on the Lower portion. In order for this to be clear, this proposal needs to incorporate the other TMDL and WQMP produced for the watershed. Questions regarding the scope of the TMDL and WQMP:

- 1.19 Comment: NEDC: 1 How does DEQ incorporate the Upper basin into this plan?
- 1.20 Comment: NEDC: 2 Why are there two different TMDL and WQMPs for Sucker Creek basin?
- 1.21 Comment: NEDC:3 What scientific reasoning and methods were used to determine the efficiency of separate TMDLs and WQMPs?
- 1.22 Comment: NEDC: 4 What are the objectives of the other report, and how are they incorporated into these reports?
- 1.23 Comment: NEDC: 5 Are there plans of incorporating the Upper Sucker TMDL and WQMP in the future?
- 1.24 Comment: NEDC: 6 If the basin plans are to remain separate, how does DEQ propose to satisfy both TMDL goals which are intended to encompass a basin, not just pieces of the stream within it?
- 1.25 Comment: SREP: The entire Sucker Creek watershed should have been included in one TMDL/WQMP. Unfortunately, because land along lower Sucker Creek is owned privately, the DEQ arbitrarily decided to develop a separate TMDL/WQMP for this stretch of the river. No explanation has been given for this decision, nor can any justification be made. For the DEQ to split the watershed into two TMDLs/WQMPs violates the spirit of and goals of the Clean Water Act. Indeed there is no indication in section 303(d) the separate criteria or TMDLs should be used depending on land ownership adjacent to water bodies requiring a TMDL. DEQ's decision to split the watershed into two areas indicates that different standards may be applied because of private ownership 303(d), 33U.S.C. 1313.

Response to 1.15 to 1.25: DEQ agrees with the comments that it is preferable to address whole watersheds or even larger areas such as subbasins in TMDLs and WQMPs. Although TMDLs can be developed for areas as small as specific stream segments, DEQ is currently committed to pursuing TMDLs at the sub-basin (4th-field) scale. However at the time that the Sucker/Grayback TMDL was developed, data collection, analysis, and water quality management planning were not at the same point in the upper and lower sections of the watershed. Rather than wait until the lower section caught up in terms of partnerships formed, data collected, data analysis and modeling, DEQ decided to work with the federal land managers and develop a TMDL/WQMP for the upper watershed only. Although they were done separately and at different points in time, there is no disconnect between the goals and objectives for the upper and lower portions of the watershed. The goal for both portions of the watershed is the achievement of water quality standards. The target is to reach *System Potential* expressed as an average of 62% effective shade below mile 10.4 and 74% percent shade above. The objective for both portions of the watershed, as stated in Chapter 4 of the Lower Sucker Creek WQMP and Chapter 3 of the 1999 Sucker/Grayback TMDL, is “to eventually meet water quality standards by correcting through appropriate management practices the anthropogenic causes of water quality violations within this watershed.” These stated goals do not give preferential treatment to any DMA. All DMAs recognized in the document, whether state, private or federal, need to develop WQMPs and outline management practices that will meet the water quality criteria.

We regret any additional effort caused by the separation of the watershed into two sections and we are committed to implementing corrective actions on a watershed-wide basis.

We agree that the monitoring section needs to be comprehensive and reflect watershed-wide monitoring efforts. As such, we have modified WQMP Section 10 to include all monitoring efforts underway or planned in the watershed.

- 1.26 Comments, EPA: The Introduction and Geographic Description Sections should include a discussion about the entire Illinois River Basin, specifically information about where in Oregon the basin is located and where the Lower Sucker flows through the basin. For clarity, a map that lays

out the entire watershed, including tributaries included and specifically noted in the TMDL should also be included in this section.

Response: The recommended changes have been incorporated into the final version of the TMDL/WQMP. A description of the Illinois River Subbasin is included in TMDL Section 2.

- 1.27 Comments, EPA: *Page 4, Map 1*. There is a pink box and an area with yellow lines on the map that is not identified in the legend. It would be helpful if the Lower Sucker Creek and its tributaries were also labeled on this map.

Response: The recommended changes have been incorporated into the final version of the TMDL/WQMP.

- 1.28 Comments, EPA: *Page 8, Table 4*. It is suggested that the following language be added to the paragraph following Table 4 to clarify the scope of this TMDL. This TMDL covers the Lower Sucker Creek (defined as the USFS boundary milepost 10.4 to the mouth) and all of its tributaries and waters which flow through private lands in the upper portion of this watershed. Allocations assigned in this TMDL will extend to all of the waters in the watershed. *Page 8, Table 4. Lower Sucker Creek 1998 303(d) Listed Segments*. A note should be made regarding the “Miles Affected” that states that “This TMDL only addresses the lower 10.4 miles of these listed segments.”

Response: The recommended changes have been incorporated into the final version of the TMDL/WQMP.

- 1.29 Comments, BLM: *Page 4, Chapter 1, Map 1*. Lower Sucker Creek Watershed: This map shows the SW ¼ of the NW ¼ of 39S-7W-23 as being under BLM ownership. This is no longer the case. Ownership changed in 1995 through a land exchange. It is currently under private ownership. The maps are misleading as to what area is covered in the document. There are two National Forest boundaries that Sucker Creek crosses. It would be helpful if RM 10.4 were marked on the map. Assuming from maps in the 1999 WQMP/TMDL that the lower boundary is RM 10.4, then there shouldn't be mention of USFS management or the USFS as a designated management agency in this document. Currently there is reference to the USFS throughout.

Response: The Commentor is correct that all USFS managed lands in the Sucker Creek watershed are addressed in the 1999 Sucker/Grayback TMDL. However, references to the USFS and its management strategies are included in the current plan to demonstrate that the watershed as a whole is under a TMDL. DMAs are required to develop and implement plans to meet the TMDL for those lands under their jurisdiction and as such we feel it is appropriate to include a listing of all DMAs when we are referring to actions that are watershed wide, this includes the USFS, Josephine County, BLM, ODA, ODOT, and ODF.

- 1.30 Comment: RN-98: The Plan arbitrarily limits the area covered to Forest Service and Bureau of Land Management lands in the upper Sucker Creek Watershed (i.e., Grayback Creek and areas upstream). "A subsequent Water Quality Management Plan will be written by Oregon DEQ to cover the remainder of the Sucker Creek watershed." (Plan p. 8) p.16). An agricultural lands WQMP is scheduled for completion during the fall of 1999. Plan p. 16.

Response: The commentor is correct that the Upper Sucker Creek TMDL covered only federal lands, which constitute approximately 93% of the total acreage in the watershed. The “subsequent Water Quality Management Plan” is the current document. The Inland Rogue Agricultural Water Quality Management Plan was adopted on June 1, 2001.

- 1.31 Comments, RN-98: Since 7 percent of the upper watershed is privately owned (Plan p. 16), temperature reductions on Forest Service lands will be offset by temperature increases on private lands. It should be noted that once a stream warms, it does not cool down much, if at all, when entering a shaded reach.

Response: The privately owned lands in the Upper Sucker Creek watershed are included in the current document. Depending on the land use, all privately owned lands in the upper watershed will be regulated by the Oregon Department of Forestry, Oregon Department of Agriculture, or Josephine County to conform with the requirements established to meet the TMDL.

- 1.32 Comments, RN-98: Include all ownerships in a single Water Quality Management Plan for all of Sucker Creek.

Response: See response to 1.25. Unfortunately there are two WQMPs for the Sucker Creek watershed at this time. They are however functionally equivalent and there is no disconnect between the goals and objectives for the upper and lower portions of the watershed. The goal for both portions of the watershed is the achievement of water quality standards.

Applicable Water Quality Standards

1.33 Comments, RS: Since the Illinois Valley is the hottest and driest valley in Western Oregon, shading the streams will not solve temperature problems. High water temperatures in the Illinois valley watershed have always been a problem, even before the Native American Indians settled here.

Response: DEQ agrees that the Illinois Valley is one of the hottest and driest in Western Oregon and that improving stream shading alone may not result in all stream reaches attaining the 64 degree temperature criteria. The current temperature violations are the result of a number of factors including degraded riparian zones, water withdrawals, degraded stream channels, excessive sediment inputs and other factors as well. DEQ believes that a watershed-wide program of riparian restoration will lead to not only increased stream shading but also to improved channel conditions, stabilized stream banks and reduced sediment inputs—all of which will result in cooler stream temperatures and improved fish habitat. DEQ is not aware of any credible data on stream temperatures in this area prior to Native American habitation.

1.34 Comments, JN: He questioned whether 64 degrees F is an attainable goal.

Response: It is true that computer modeling indicates that the 64 degrees temperature criteria will not be achieved on all stream reaches in this watershed even after system potential shade is achieved. However, the same computer models predict significant lowering of stream temperatures throughout the system and the creation of cold water refugia for fish even during the hottest days of the year.

1.35 Comments, R&R: Many of the streams in our region are listed on the 303(d) list as being water quality limited. These streams are and have always been water quality limited based on the natural geography, soils, weather and vegetation. The criteria used for listing did not take into account the historical conditions of rivers and streams. A blanket prescription using an arbitrary temperature or sediment number makes no sense to us and has no scientific basis. DEQ must demonstrate and explain the scientific underpinnings of TMDLs established for all watercourses in our region and conduct a comprehensive analysis of the economic impacts of the proposals before proceeding further along this course of action.

1.36 Comments, NEDC: The 64° standard is inadequate because: 1st, it is arbitrarily based on a “7 day moving average of daily maximums” that assume anthropogenic causal factors to remain constant; and 2nd, the “temperature limitation,” that is not expected to be met, does not produce water quality standards needed to support salmon, the indicator species adopted. The document does not state the reason for this lower standard. The TMDL only illustrates the fact that 64° F reflects conditions that already exist. Arguably, the TMDL sets forth a maximum daily load acceptable. Does the 64° standard indicate that the stream, though considered an impaired water body, meets the standard of a non-impaired water body? Is there any historical temperature data to set a more optimal standard for the sensitive species? Are anthropogenic factors that increase the stream temperature considered background temperature that is natural? What reasoning can justify using current temperatures, of a temperature impaired water body, as the standard for restoring water quality? The TMDL thus fails in its purpose, to set water quality standards to “protect beneficial uses.” (P8 TMDL). Are we to assume that the worse the standard, the more likely we will feel we can reach it? Or was this lower standard allowed because DEQ failed to address essential elements necessary to achieve an optimal temperature standard?

Response 1.35 and 1.36: The temperature standard is “no measurable surface water increase resulting from anthropogenic activities is allowed” which is triggered by exceeding the numeric criteria of 64 degrees. The 64 degree numeric criteria has not been arbitrarily set; it was established based on the

requirements of salmonids during the rearing stage of their life cycle. Thus, 64 degrees is not a “lower standard”; it is rather an appropriate criteria for salmonid rearing. DEQ is not aware of any valid scientific data on stream temperatures in this watershed prior to European settlement. Anthropogenic factors that increase stream temperatures are not considered to be “background”; rather they are inputs that must be reduced to result in “no anthropogenic temperature increase”. The temperature standard also indicates that if the appropriate criterion is not reached following implementation of a TMDL, including all feasible steps to reduce temperature, then the standard of no anthropogenic increase is satisfied. This accounts for regional and site-specific watershed conditions.

- 1.37 Comments, NEDC: 1. How will the inconsistency in the temperature goal (55 F v. 64 F) be rectified? The optimum goal for salmon at certain life stages is 55 F, however the summer time average is 64 F. There is no mention in the temperature section about how directly these seasonal temperatures affect the coho salmon, fall chinook salmon, and winter steelhead which spawn in the river. Considering the different runs and the different spawning times and fry rearing lengths, the WQMP does not address how it will meet the needs, or try to meet the needs, of these fish during their crucial life stages. (p. 40 WQMP)

Response: The 55 degree F temperature criterion is intended to protect salmonids during the times of the year when spawning occurs (October to April depending on the species). The 64 degree F criterion applies when salmonids are rearing in the stream. There is insufficient data at this time to determine if stream temperatures in Lower Sucker Creek exceed 55 degrees F during the spawning periods.

- 1.38 The Fish Usage Section (p. 40) states, that temperatures can be lowered by vegetation enhancement and stream channeling. However, these solutions are not immediate enough considering the necessary water temperatures for the salmon.

Response: It is true that the shade enhancements and improvements in channel morphology targeted in this TMDL/WQMP will require several decades to become fully effective. However, the streams in this watershed have been badly degraded for well over a century and no immediate means of solving the known problems are available. As the proposed management measures are implemented, the salmonid habitat (and fish populations) will continue to improve.

- 1.39 Comment: SREP: Information and data on the existing physical, chemical and biological conditions for the study area and an analysis of the deviation from target are imperative components of the TMDL. The Lower Sucker Creek TMDL contains virtually no information about background conditions. Neither does the TMDL explain what the status of the individual stream reaches and the stream banks are or analyze the trends. There is no reference to the waterbodies’ status under the National Marine Fisheries (NMFS) “proper functioning condition” approach, which is especially shocking considering the presence of endangered coho. Without a foundation of understanding the current conditions, the TMDL cannot possibly elucidate what is necessary to remedy those impairments. In fact there is nothing in the TMDL that will direct the level of effort necessary to attain the standards; it is merely an academic recital of the relationships between riparian habitat and thermal pollution.

Response: The Lower Sucker Creek TMDL/WQMP deals specifically with elevated stream temperatures and the effects on the most sensitive beneficial use; i.e., salmonids. Flow and habitat modifications are also of concern but are not considered pollutants and thus loads are not developed. The principle cause of increased stream temperatures has been found to be increased solar loads resulting from reduced shading of the stream channels. Degraded riparian zones also adversely impact channel morphology (and habitat). The current document (Appendices C and F) contains considerable information on current riparian shade and channel conditions in the Lower Sucker Creek watershed. Shade targets have been established throughout the watershed; meeting these targets will require substantial improvements in riparian conditions, which will also result in improved channel morphology and fish habitat. “Properly Functioning Condition” as defined by the National Marine Fisheries Service (NMFS) consists of “sustained natural habitat-forming processes needed for long –term survival of the species.” Those habitat-forming processes include riparian vegetation succession, bed load transport, precipitation runoff patterns, and channel migration and goes above and beyond the scope of this TMDL. If a DMA would like coverage under the

Endangered Species Act, PFC must be considered. NMFS provides technical assistance in regards to the ESA. DEQ provides technical in regards to the TMDL and WQMP..

1.40 Comments, EPA: *Page 8, Temperature Assessment*. It should be stated that the 64°F criterion applies between June 1-September 30 and the 55°F criterion applies between October 1-May 31.

Response: The recommended changes have been incorporated into the final version of the TMDL/WQMP.

Beneficial Uses

1.41 Comments, JN: He stated that salmon runs before 1920 were very small; only after the falls at 6-mile were removed did significant salmon runs occur.

Response: Stream temperatures are currently too warm for the existing fish population (which is the current most sensitive beneficial use). Actions to reduce stream temperatures are required by the Clean Water Act.

1.42 Comments, NEDC: The TMDL also fails to meet its objectives. The TMDL purports to employ temperature standards that are protective of indicator species. (P6 TMDL). In meeting this objective, the TMDL recognizes salmon to be the most sensitive species and thus indicative of the health of all aquatic life. A temperature criterion for salmon spawning, egg incubation, and fry emergence, was set at 55° F. This standard only applies to spawning specific sites, “ for the specific times of the year when these uses occur.” (P6 TMDL). The DEQ failed to incorporate salmonid rearing temperature needs. The seasonal standards allowed fail to encompass the remaining portion of the salmon’s life cycle spent in the river system. If the point of the TMDL is to set temperature standards to meet the needs of the most sensitive species, one cannot ignore that species while it rears in the river. If there is no available data concerning the length of time salmon spend in the river system rearing, then in order to comply with the TMDL goal, one must assume that the salmon remain in the system beyond emergence from the gravel. Simply creating a 64° F temperature standard that is merely a threshold for sensitive threatened species is not adequate temperature protection, especially when that standard cannot be met.

Response: It is not the purpose of the TMDL to set temperature standards. The temperature standard is “no measurable surface water increase resulting from anthropogenic activities is allowed. “ This standard has been triggered in the Lower Sucker Creek Watershed by summer temperatures that exceed the numeric criteria of 64 degrees F. A separate 55 degree F criteria has been established during for spawning, incubation, and fry emergence. The 64 and 55 degree F numeric criteria have been established based on the requirements of salmonids as described in the 1992-1994 Water Quality Standards Review, Temperature, 2-1 – 2-16.

1.43 Comments, EPA: *Page 5, Temperature Standard*. A map of distributions and date ranges for the spawning, rearing, and migration of the cold water salmonids present in the watershed should be included after Table 2 (similar to Image 2 on page G-8 of The Upper Sucker/Grayback TMDL). The Applicable Temperature Water Quality Standards listed in the Lower Sucker Creek TMDL Component Summary should be listed similar to the Approved TMDL for Tillamook Bay Watershed (page 29 of the Tillamook Bay Watershed TMDL approved by EPA on July 7, 2001).

1.44 Comment: SREP: the TMDL should include information on the current and historic occurrence of salmon in the watershed. To adequately detail the geographic range of the salmon, the DEQ must first, accurately indicate the current habitat use of salmon and second provide information about the historic use of the salmon, if it differs from the current geographic area used as habitat. As the first requirement, the DEQ provides a general map showing salmon ranges. However, as to the second requirement, the DEQ provides readers with no indication of historic use and migration by the salmon. The geographic use and location of salmon in the Lower Sucker Creek watershed is critical to preserving this listed species as well as establishing a more accurate and comprehensive TMDL.

Response 1.43 and 1.44: The recommended changes have been incorporated into the final version of the TMDL/WQMP, please see TMDL section 3.

1.45 Comments, BLM: Page 40, Chapter 2, Fish Usage in Sucker Creek, First paragraph, second sentence: It would be more accurate to say “It contains a core area as defined by the Southern Oregon Salmon Restoration Initiative...”

Response: DEQ has inserted a general map showing salmon ranges and table of salmonid lifecycle uses by month for Sucker Creek.

1.46 Comments, RN-98: The assertion that data is not available for private lands is false. Tioga Inc. conducted snorkel counts and stream surveys of lower Sucker Creek during 1996 and 1997. These data are available from the Siskiyou National Forest.

Response: The Rogue River National Forest has confirmed that stream surveys and snorkel counts were performed in 1996 and 1997 and that these data have been made available to ODFW. DEQ assumes that these data have been incorporated into the Fish Distribution Map (Map 4) and the Salmonid Use Table (Table 5) which were developed in consultation with ODFW biologists.

1.47 Comments, BLM: Page 40, Chapter 2, Fish Usage in Sucker Creek: Regarding references to Sucker as a key watershed, the area covered by this document is not in a key watershed. There are key watersheds upstream which are the Cave/Grayback Creeks Key Watershed and the Upper Sucker Creek Key Watershed. These are key watersheds according to the Northwest Forest Plan and the Medford District RMP. It would be better to cite these documents rather than FEMAT since they are decision documents and FEMAT is not.

Response: The recommended changes have been incorporated into the final version of the TMDL/WQMP.

1.48 Comments, RN-98: Bear Creek, an important producer of coho salmon was excluded from the plan. The BLM has substantial holdings on Bear Creek. Roads maintained by BLM across active landslides have caused severe sedimentation of Bear Creek.

Response: Bear Creek is shown as temperature limited on the 1998 303(d) list and is included in the 2002 Lower Sucker Creek TMDL and WQMP.

1.49 Comments, BLM: Page 40, Chapter 2, Fish Usage in Sucker Creek: Regarding fish species, Sucker Creek is a stronghold of wild coho for the Rogue Basin, so it would be more accurate to say “wild coho salmon”.

Response: The recommended changes have been incorporated into the final version of the TMDL/WQMP.

1.50 Comments, RN-98: Substantial populations of coho salmon have been documented in Bear Creek and Sucker mainstem below Bear Creek.

Response: No response required.

Existing Sources

1.51 Comments, BLM: Page iv, Third component (Existing Sources) of the Lower Sucker Creek TMDL Component Summary. Under Anthropogenic sources of thermal gain from riparian vegetation removal: Forest management within riparian areas. Change to read inappropriate forest management within riparian areas. Under Anthropogenic sources of thermal gain from channel modifications: Mining, Timber Harvest, Roads. Change to read: Mining, Roads, Inappropriate forest management within riparian areas.

Response: The recommended changes have been incorporated into the final version of the TMDL/WQMP.

- 1.52 Comment: BLM: Page11, Chapter 1, First paragraph under Factors Affecting Stream Temperatures. Third sentence reads: “Human activities that have contributed to degraded water quality conditions in the Lower Sucker Creek Watershed include timber harvest, road building,...”. Replace timber harvest with “inappropriate forest management”

Response: The recommended changes have been incorporated into the final version of the TMDL/WQMP.

- 1.53 Comments, RN-98: The Water Quality Plan has not investigated the existence of toxic residues from historic mining. Fish densities reported from the 1996 and 1997 Sucker Creek stream surveys are mysteriously low in Sucker Creek for the 2-3 miles below Grayback Creek. Could toxic metals (mercury?) be the cause for low fish densities?

Response: DEQ is not aware of any data documenting metal or other mine waste related toxicity problems occurring in the Sucker Creek watershed. Water quality monitoring will continue throughout the basin and any acute or chronic toxicity issues will be investigated.

Channel Conditions

- 1.54 Comment: RN- Sproject: Both water quality management plans for Sucker Creek are scientifically deficient because they fail to identify linkages between upstream landsliding and clearcutting with increased channel widening in the lower Sucker Creek (see Frissell et. Al. 1977). This is important because by splitting the watershed the DEQ has failed to identify causes of channel widening.

Response: Channel widening throughout the Sucker Creek watershed is due to a number of factors, including degraded riparian zones, destabilized stream banks, and sediment from a number of sources (roads, mining practices, agricultural operations, and timber cutting). Each of these causes has been addressed in this TMDL, the Northwest Forest Plan, the Oregon Forest Practices Act, the Inland Rogue Agricultural Water Quality Management Plan, and state regulations governing mining operations.

Sediments

- 1.55 Comments, RN-SPROJECT: No formal sediment budget has been developed for Sucker Creek. It is recommended that we look at the soil survey maps to help identify the most important forested areas.

- 1.56 Comment: RN- Sproject: Recommendation 2: A sediment budget should be made to establish the past and current sources of sediments with chrono-sequential photographs and landslide analysis.

- 1.57 Comment: SREP: Sedimentation and turbidity should be included in the TMDL. The listed parameters for the Lower Sucker Creek watershed are temperature, habitat modification and flow modification. However sediment is the major pollutant in the watershed and must be fully addressed in the water quality management plan to provide an adequate assessment of the streams. Upon approval of the Sucker-Grayback TMDL, US-EPA stated that since the WQMP identified sediment as a source causing impairment to salmonid habitat, this should be evaluated in the next round of 303(d) listings and listed for sediment if it meets DEQ listing requirements. Furthermore the amount of increased sedimentation should be quantified numerically and discussed narratively. This means that the DEQ must consider logging, agricultural activity, and development activity in the Sucker Creek watershed and the consequential effects of these activities, including a more thorough assessment of sediment loading from landslides, road failures, clogged culverts, grazing, and other forms of erosion.

- 1.58 Comments, SREP: Furthermore, by neglecting to address sedimentation as a limited parameter under the 303(d), the DEQ seems to be actively avoiding an issue which would surely implicate development and agricultural activities.
- 1.59 Comments, EPA: On page 13 in the discussion on channel widening, it is correctly pointed out that “Lower Sucker Creek has become wider due to increased sediment loads following extensive logging, mining, and the influence of roads.” Under “nonpoint sources of pollution” on page 44, excessive sediment is listed as one of three anthropogenic sources. However neither the TMDL nor the WQMP deal effectively with this issue. Estimates of how much sediment is still coming into the stream network, how much can be reduced and where, and how long it will take to move through the system are key pieces of information to have on hand when considering recovery options and designing projects.
- 1.60 Comments, RN-98: The Plan provides a defacto exemption for sediment and thermal pollution emanating from Forest Service lands. There is no analysis of the sediment and thermal pollution being delivered to down stream reaches. Monitoring and reducing the downstream impacts from sediment and warm water emanating from federal lands is logically the responsibility of the Forest Service, but no monitoring is proposed on private lands in the Plan because the Plan ends where private lands begins.
- 1.61 Comments, RN-98: The Plan does not fully address erosion and sedimentation at a watershed scale. Logging related landsliding is causing lethal and para-lethal levels of suspended sediment (Appendices A,B,E). Aggrading sediments fill in cold water refugia such as spring brooks and causes reduced egg-to-fry survival of salmonid eggs (Nawa and Frissell 1993). Sediment is as much a limiting factor as temperature but is not adequately addressed in the Plan.

Response 1.55 to 1.61: There are currently no streams in the Sucker Creek watershed listed on the 1998 303(d) list for sediment and as such the establishment of loading capacities and associated load allocations does not apply. However, the Department realizes that excessive sedimentation is considered a potential problem throughout the watershed. Additional discussion on sediments has been added in TMDL Section 3 and TMDL Section 4. The Department believes that the surrogate measures developed in the temperature TMDL that require the establishment of a *system potential* riparian community (deciduous/mixed/conifer) will provide for increased effective shade and will also serve to stabilize streambanks and reduce sediment inputs. Thus, these same surrogate measures that address Temperature will address Sediment as well. The timeframe for sediment recovery is provided in Table 11 Channel Targets. As expressed in the table, assuming passive and active restoration begins today it is estimated that it will take 20 years for the channel to stabilize assuming no additional sediment inputs. In addition activities undertaken by Josephine County, BLM, ODOT and USFS to address road construction and maintenance (including culvert inspection and upgrades) will achieve further reductions in sediment inputs.

Sediments – Mining

- 1.62 Comments, JN: He does not believe that mining has any significant adverse effect on the stream
- 1.63 Comment, TK: Historic hydraulic mining practices deposited massive amounts of sediment into the stream channel; this sediment load, which is still in place, will make creek restoration very difficult. Suction dredging is the only effective means of removing this sediment. Small-scale suction dredging has no significant adverse effect on stream or watershed health. Miners would like information on how the creek should be left after dredging is complete.

Response 1.62 and 1.63: Current mining practices consisting primarily of small-scale suction dredging, are well-regulated and do not appear to have significant adverse effects on streams in this watershed. The effects of historic mining, especially hydraulic mining, has severely degraded streams in the Sucker Creek watershed and those adverse effects persist today. The type of channel and riparian conditions suitable for

a site will vary from site to site. Specific information and assistance may be available from the Illinois Valley Watershed Council or from the BLM or USFS.

- 1.64 Comment: TK: If I remember correctly you mentioned that excessive silts from dredging could plug, clog, or damage gills of fish downstream from the dredge. I argued against this idea...and I hereby submit the above mentioned report supporting my arguments. Submitted copy of “Placer Mining on the Rogue River , Oregon, in its relation to the Fish and Fishing in that Stream Author Dr Henry Baldwin Ward September 1937- May 1938.

Response: The study cited concludes that dredge mining silts do not adversely impact fish. However, this study was conducted 65 years ago and has since been refuted by numerous other rigorous scientific investigations. Excessive sediment loads and high turbidity levels (above 50 NTU) have been shown to adversely affect salmon spawning and rearing. These affects are the basis of the water quality standards designed to protect salmonids, which are enforced by ODF&W and DEQ. Sediment and turbidity caused by mining activities are not regulated less stringently than similar problems caused by other sources. The risks to salmonids from excessive sediment and turbidity levels are now well established.

- 1.65 Comments, TK: State law requires that any rule or regulation affecting mining must be developed in consultation with all the affected parties (i.e., miners); the BLM land in the Lower Sucker Creek watershed is claimable for mining and this TMDL/WQMP could affect mining.

Response: This TMDL/WQMP does not propose any new regulations or restrictions on mining in the Sucker Creek watershed. Current regulations are considered to be adequate to protect the streams and their inhabitants.

- 1.66 Comment: RN- Sproject: the Lower Sucker Plan does not address ongoing gravel mining, gold mining, and push up dams that destabilize the stream bed and foster channel widening.

Response: These activities are all currently regulated by state agencies (DOGAMI, DSL, and DEQ) which issue permits and prescribe operational and construction techniques designed to minimize adverse impacts on the stream channel and resident fish. If DEQ determines that changes in current regulated practices are necessary to prevent stream bed destabilization and channel widening, we will work with the appropriate state agencies to modify their rules and regulations.

- 1.67 Comments, EPA: *Page 11, Factors Affecting Stream Temperature.* Mention is made of “excessive upland sediment loading” as a result of human activities, having an impact on the Lower Sucker Creek Watershed. Further discussion should be included as to how this problem contributes to habitat modification and how the problem might be addressed in a future listing for the basin. Further discussion about the instream mining that is occurring in the Lower Sucker Creek Watershed should also be included in this section. Current and future mining issues should be addressed, and a wasteload allocation of “no measurable increase” should be assigned to the mining activities.

Response: Many reaches of the Sucker Creek mainstem are “over-widened” resulting from past practices in concert with natural events that have eroded stream banks. Although natural floods and fires have been significant causal factors in streambank erosion, forestry, agricultural, mining and road-building activities have all contributed to the current condition.

Recreational mining is conducted within the watershed and is considered a point source activity. It is the only point source activity currently present in the assessment area. As currently regulated, this activity is not allowed to affect riparian and/or channel conditions. This activity is currently managed under the 0700J General NPDES Permit. The DEQ is charged with generating, issuing, monitoring, and enforcing conditions contained within the 0700 permit for this activity. These point source influences are allowed no thermal pollutant load to the system. The Load Allocation section of the TMDL has been modified to include mining. The numeric temperature criteria in Lower Sucker Creek is not expected to be met and therefore no measurable surface water temperature increases from anthropogenic activities are allowed. All current and future recreational mining is permitted under the NPDES permit system and is held to the “no measurable increases in surface water temperature” requirement.

Also refer to Comment 1.62 and 1.63 and associated response.

1.68 Comments, SREP: Furthermore, mining activities have been given little attention in the WQMP, even though mining practices increased in the past few years

Response: See response to comments 1.62, 1.63, 1.66, and 1.67 above.

Flows

1.69 Comment: RN- Sproject: the Lower Sucker Plan and DEQ oral presentations at Cave Junction (8 Nov 2001 and 13 Nov 2001) implied that stream temperature is the major limiting factor to salmonids in Sucker Creek. This is not true, in my opinion, which is based on 15 years of observing salmonids in both coastal and interior Oregon River Basins such as the Illinois Valley. The implication that reducing stream temperatures will increase or maintain Salmonid population is false and misleading because it erroneously assumes that flows are currently adequate and will be adequate in the future. Nothing could be farther from the truth with increased habitation along Sucker Creek and watershed degradation from logging and road building.

Response: DEQ believes that reducing stream temperatures in this watershed will have a positive impact on the salmonid populations. The current widespread high temperatures and lack of cold water refugia for salmonids are considered to be severely limiting factors. DEQ does recognize that reduced flows (particularly during the summer months when temperatures are highest) contribute to increased stream warming and stress on the salmonids. However, the pollutant identified for this TMDL is excess heat energy, and shade was identified as the most appropriate surrogate for establishing targets. DEQ does not have the authority to change existing law regarding water rights; however, the Water Quality Management Plan discusses voluntary that would enhance flow.

1.70 Comments, NEDC: Factors listed in the TMDL affecting temperature include stream flow and habitat structure. However, DEQ chose to ignore these issues by reasoning that the 303d parameters of habitat and flow are not, “a direct result of a pollutant.” (P7 TMDL). Yet, the next page states that the TMDL “must be developed and implemented for each listed parameter.” (P8 TMDL). Both flow and habitat are listed in Table 4 as parameters. The document’s contradiction is unacceptable, and needs to be addressed in detail in both the TMDL and the WQMP.

Response: Although we believe that the CWA and related EPA regulations do not require load allocations for habitat modification and flow (they are not pollutants) we do feel they are important factors in the watershed and have therefore addressed them in the WQMP. The WQMP provides an assessment of habitat and flow related issues and includes recovery goals as well as passive and active restoration to meet the goals. The WQMP further describes management measures and restoration targets that are related to habitat and flow including quantified stream width reduction targets. In addition, an overall goal established in the WQMP is meeting the ODF&W habitat benchmarks, including a number of quantified habitat parameters such as pool/riffle ratio, pool frequency large wood levels, and riparian forest conditions.

1.71 Comments, NEDC: DEQ’s argument that flow and habitat are the result of a pollutant fails because, as the document later recognizes, those factors indicate causes for a temperature impaired water body. Arguably, high stream temperatures do decrease the amount of available habitat and may serve to further decrease the flow. However, the fact remains that flow and habitat are key factors contributing to the temperature impaired Sucker Creek, not merely “results of a pollutant.” Therefore, DEQ is required to address both flow and habitat to adequately address the TMDL. If those factors are not addressed, the TMDL is for naught. This is apparent by the prediction the objectives will not be reached “even at system potential.” (P16 TMDL). Furthermore, the measures proposed are, “not expected to meet the temperature criteria during the hottest days of the year.” (P19 TMDL). It is exactly those days, which the TMDL needs to address. Including measures to increase flow and habitat in the WQMP would increase the means of addressing temperature issues and thereby attain better results.

Response: See comment 1.70 and response above.

- 1.72 Comments, NEDC: Arguably, DEQ is not in a position to address the flows because the senior water rights are adjudicated. However, if the DEQ is serious about turning the temperature, flow, and habitat impaired water body into one that is not, it has the opportunity to suggest innovative plans in the WQMP. DEQ, under the guise of the state, has the authority to propose measures to avoid public harm such as programs to purchase senior water rights, or incentive plans to donate water. In addition, in terms of habitat, DEQ has the authority to propose more upland sediment reduction objectives. Specifically, DEQ could target road and culvert construction, maintenance, and repair to meet standards to better comply with the Clean Water Act. It cannot be assumed by the DEQ that other agencies will address these issues in their land management plans. Considering the state of the river, these issues have continuously been ignored by other agencies. Now, the TMDL presents DEQ with the vehicle to meet the problems head on instead of passing the buck and relying on land management schemes that have not proven to be effective.

Response: In Section 6 of the TMDL (Loading Capacities and Allocations), Surrogate Measure #3 states “Where feasible, maintain/increase flows to meet minimum instream rights at the mouth of Sucker Creek especially during the critical temperature periods of July through September..”. Voluntary efforts to improve stream flows—such as purchase of senior water rights or incentives to donate water rights—are available to all of the DMAs in this watershed; DEQ encourages the use of such measures in the various water quality management plans developed by the DMAs. DEQ does not agree that the responsible DMAs are ignoring road and culvert construction, maintenance and repair. Improvements to the road system are on-going and are an integral part of the Oregon Forest Practices Act and the Northwest Forest Plan which cover almost all of the land in the upper watershed.

- 1.73 Comments, NEDC: The third surrogate measure meets a similar fate. Grounded in good intention, it lacks feasibility because no plans exist to meet its ends. DEQ states, “where feasible, maintain/increase flows to meet minimum instream rights.” (P22 TMDL). However, DEQ also states to the contrary, “because [ODFW’s] rights are junior, it is unlikely that they will be met, especially during the irrigation season.” (P15 TMDL). Irrigation season is precisely the time of year when temperatures are at their highest, and sensitive species are most harmed. If this TMDL aims for any water quality improvement based on indicator species, it needs to do so when the temperatures are at their most critical height. Application of the first surrogate measure alone will not serve that purpose. And when the time frame is incorporated into the effectiveness of the Sucker Creek TMDL, it is apparent that more needs to be done to ensure that water quality improves. The strongest surrogate measure is not expected to be effective, at the least, in 55 years. DEQ has the authority to ensure more effective measures and a more timely delivery. Granted, natural processes take time, and the TMDL addresses future concerns. However, the method imposed by this TMDL does not go far enough to ensure improved water quality for the near or distant future.

Response: The initial goal of this TMDL is to prevent any further degradation of the watershed due to human activities. Restoration of the stream channels and re-establishment of riparian vegetation and increases in associated shading will necessarily rely on natural processes which will take several decades to achieve. DEQ is committed to a five-year time frame for review of completed TMDLs to determine the effectiveness of the restoration efforts and whether any additional measures are required. Restoration of natural conditions will take considerable time, but we believe positive progress can and should occur immediately.

- 1.74 Comment: SREP: Habitat and flow modification do not receive adequate attention in the TMDL. The TMDL and WQMP barely consider habitat and flow modification. By inadequately considering habitat and flow modification, the TMDL and WQMP preclude discussion of other related factors. Amazingly, the TMDL and WQMP justify why no formal load allocation was proposed for the habitat or flow modification by stating that habitat and flow modification are not viewed as a water quality parameters under the Clean Water Act. In writing the TMDL, the DEQ must interpret and apply its narrative criteria and requirement to support the beneficial use and fill

these gaps, not ignore them. To do any less than this is to reject the legal fact that the beneficial use support is a stand-alone component of water quality standards 40 CFR 130.7(c)(1)

Response: On pages 43 and 44 of the WQMP, DEQ states that habitat modification and flow are not considered water quality pollutants under the Clean Water Act; this position is endorsed and supported by EPA in its MOU with the state of Oregon. Habitat modification and flow are considered important water quality parameters which are addressed in the TMDL and WQMP (refer to comment 1.71 and the response).

1.75 Comments, RN-98: The Plan falsely asserts that summer low flows are merely a reflection of annual precipitation (Plan p. 11). Logged watersheds have shown decreases in summer low flows, probably because conifers have been replaced by water guzzling alders (Hicks 1991). Conifer riparian forests have been replaced by alder throughout the Sucker Creek watershed.

Response: The extent of conifer replacement with alders throughout the Sucker Creek watershed is unknown as is the exact effect of such replacement on stream flows. However, the natural reforestation progression will result in conifers becoming the dominant trees across the landscape overtime.

1.76 Comments, RN-98: The Plan fails to explain relationships between flow, temperature and beneficial uses in the Illinois Valley. For example, decreased summer flows from logging and water withdrawals can exacerbate deleterious temperature effects on salmonids. In general decreased flows mean the water body warms faster and lower flows generally means reduced turbulence. Conversely, turbulent flows of greater than 25 cfs can sustain juvenile steelhead even when daily maximum temperatures reach 75-80° F (Appendix G).

1.77 Comments, RN-98: Oregon Water Resources Division (WRD) "will also be trying to identify opportunities for converting consumptive uses to instream rights" This nebulous statement lacks relevancy. Currently the WRD has no regulating mechanism in place to prevent water users on Sucker Creek from completely dewatering the stream during drought conditions. During the early 90s many reaches of Sucker Creek were dewatered (dried up) and huge numbers of juvenile salmonids perished. Ironically, as surface flow is replaced by ground water in isolated pools stream temperatures drop. Of course the fish die because of predation, lack of food, and low oxygen levels.

1.78 Comments, RN-98: Identify a means to maintain minimum flows, especially in drought years. Voluntary cut backs in water use or conservation are not reliable because when the water is needed the most such as during drought the demand by humans is the highest.

Response 1.76 to 1.78: DEQ agrees that reduced flows can result in higher stream water temperatures. Low stream flows during the summer months are a concern throughout the Sucker Creek Watershed but water withdrawals are regulated by OWRD and are under Oregon Water Law. DEQ has no authority to modify Oregon Water Law and the WQMP must rely on voluntary measures to increase stream flows.

Habitat and Channel Complexity

1.79 Comment: RN- Sproject: Neither of the 2 water quality plans identify the importance of off channel spring brooks which are an important for coho salmon spawning and rearing (see appendix H included with the 18 January 1998 comment letter).

1.80 Comment: RN- Sproject: Currently neither water quality plan identifies critical spring brook refugia or outlines steps needed for the protection of hydrologic, vegetative, and geomorphic features.

Neither water quality plan identifies the need to maintain and protect beaver as a mitigating factor for high water temperatures.

Response 1.79 and 1.80: The WQMP lists a number of possible approaches to achieving stream temperature, as well as habitat and flow standards but does not impose any limits on the approaches that may be taken. If the DMAs in the watershed, in consultation with land managers and state agency experts, determine spring brook refugia and increased beaver populations are appropriate restoration strategies, they may choose to implement them.

1.81 Comment: RN- Sproject: Recommendation 3: Spring Brookes and other off-channel habitats (low floodplains) should be mapped and specifically protected with easements or purchase.

Response: This management measure is not required by the TMDL/WQMP and just how much of a benefit it would have on stream temperature and fish habitat is not known. There are potential benefits, however, and DMAs will be free to implement such a preservation program.

Surrogate Targets: Riparian Shade

1.82 Comment: RN-SPROJECT: We should recognize that “gallery forests” (shrubs next to the stream bank, then a band of hardwoods, then conifers) is the natural riparian vegetation pattern along undisturbed streams in the Illinois Valley. Conifers adjacent to the streams are unlikely to occur.

Response: Historic photos and current channel assessments show that conifers are commonly found in close proximity to undisturbed stream channels. “Gallery forests” are typically found where severely degraded and unstable stream channels result in riparian conditions that cannot support development of stands of mature conifers.

1.83 Comment: RN-SPROJECT: The Lower Sucker Creek Plan provides no effective means to protect existing or future mature trees that provide shade and sources of large wood. Due to compensation provision in measure 7, state and county agencies are not likely to adopt protection measures for mature trees along Sucker Creek. DEQ or other agencies should acquire the authority to purchase or acquire in some other means protection for trees on hill slopes growing along Sucker Creek. ODOT currently acquires easements protecting trees on hillslopes above roads, why can't the state and county protect streams in a similar manner?

Response: Protection of existing or future mature trees as sources of shade and large woody debris in stream channels is highly desirable and can be accomplished through the use of conservation easements. DEQ encourages DMAs in this watershed to make conservation easements a part of their restoration programs.

1.84 Comments, NEDC: Surrogate measures provided are a commendable approach to the difficult problem. NEDC supports DEQ's effort of increasing shade to decrease solar radiation. This is an important factor in reaching a higher water quality standard.

Response: No response required.

1.85 Comments, NEDC: Considering that 52% of the Lower-Sucker Creek water shed is privately owned land, DEQ needs to set it's standards with enough of a buffer zone to compensate for any land uses unregulated by DEQ. According to the Temperature Standard section (p.40) no measurable surface water temperature increases resulting from anthropogenic activities is allowed. However 52% of the Lower Sucker Creek watershed is privately owned, leaving DEQ with no authority to regulate those land uses. Therefore DEQ needs to set water temperature standards at level which cannot be easily affected by private land uses. In other words, DEQ needs to set solid water quality standards, so that the Lower Sucker Creek will not be brought out of compliance due to non-regulated private land use activity.

Response: DEQ will not directly regulate land management practices on any land within this watershed, whether privately or publicly owned. The established water quality standards apply across the landscape and all land owners/managers must comply with these standards. Enforcement of the standards is the responsibility of the local, state, and federal agencies who have legal authority over these lands. Federal timber lands are managed in accordance with the Northwest Forest Plan, state and privately owned timber by the Oregon Forest Practices Act, agricultural lands by the Inland Rogue 1010 plan, and residential uses by Josephine County.

1.86 Comments, EPA: *Page 11, Factors Affecting Stream Temperature*. Effective Shade Curves for the Vegetation Zones should be displayed in this section to show the Site Potential of the area.

Response: The recommended changes, current and system potential shade graphs have been incorporated into the final version of the TMDL/WQMP .

1.87 Comments, SREP: The WQMP also looks almost exclusively at the diminishment of riparian vegetation, with virtually no discussion of upland activities. The authors of this document surely know that a watershed is an integrated ecosystem, and that factors beyond the riparian areas play a strong role in the degradation of a water body.

Response: DEQ agrees that a watershed is an integrated ecosystem and that factors beyond the riparian areas contribute to stream degradation. Land uses away from the riparian zones in this watershed are almost exclusively timber production or agriculture. Federal timber lands are managed in accordance with the Northwest Forest Plan while private timber holdings are regulated by the Oregon Forest Practices Act; agriculture practices are addressed in the Inland Rogue Agricultural WQMP developed by the Oregon Department of Agriculture. DEQ believes that once these three plans are properly implemented, adverse impacts on the stream system will be substantially reduced or eliminated.

1.88 Comment: BLM: Page 14, Chapter 1, Third paragraph under Temperature Factor 2. Channel Widening: Statement reads “Treatment 1 - Plant trees in the existing riparian area.” Change to read “Treatment 1 - Plant trees and maintain stand health and vigor in existing riparian area.

Response: The recommended changes have been incorporated into the final version of the TMDL/WQMP.

1.89 Comments, BLM: Page 18, Chapter 1, Setting the Temperature TMDL: References are made to system potential. The definitions of system potential in the glossary and in Appendix C are vague. Does system potential mean in the absence of anthropogenic causes including roads, buildings, pastures, and water withdrawal?

Response: System Potential vegetation is defined as the vegetation and resulting percent effective shade that could be expected given mature native riparian vegetation in the absence of human impact. In the case of Sucker Creek, it assumes that roads, bridges, and other manmade structures are not present. System Potential does not advocate the removal of such manmade structures, rather it is felt that in most cases such structures will have minimal impact on the overall average effective shade on the stream. Channel targets also did not include the impact of roads, bridges, and other manmade structures when predicting future widths. Water withdrawals or a return to natural flows are not included in the system potential definition or in the modeling of system potential. The glossary and text have been updated to clarify these definitions.

1.90 Comments, RN-98: The Plan does not identify loss of shade and habitat caused by Port Orford root disease. It does not provide a timetable for specific actions to prevent the spread of the disease which jeopardizes water quality (road closures).

Response: It is acknowledged that Port Orford cedar infected with *Phytophthora lateralis* exist in the Lower Sucker Creek area. The BLM states that management may become necessary to prevent a catastrophic event from the spread of *P. lateralis* to uninfected trees. The TMDL and WQMP have made every attempt to develop realistic timeframes and milestones to predict vegetation recovery in the absence of natural disturbance. The infestation by *P. lateralis* would be considered a natural disturbance and the disease or management efforts to combat its spread may impact the rate at which shade recovers in the watershed.

- 1.91 Comments, BLM: Page 21, Chapter 1, Table 10: How does this table relate to Figure 4 of Appendix F? The write-up below Figure 4 states that there is little gain in stream temperature reduction above 80% effective shade, but Table 10 has targets of 96%, why is this?

Response: 96% shade represents average effective shade for the riparian area at System Potential for those streams listed in Table 10. As stated in Appendix F, Page 6 any shade greater than 80% results in minimal temperature benefits however for Sucker Creek the additional shade above 80% is considered a margin of safety. This additional shade should be achieved through passive means with a “mature stand” without employing active restoration at the site. The text in Chapter 1, Percent Effective Shade Targets Table 10 has been modified to include to state “96% shade represents average effective shade for the riparian area at System Potential. Any shade greater than 80% will result in minimal temperature benefit and is considered a margin of safety. See Appendix F page 6 discussion of shade greater than 80% versus temperature.”

- 1.92 Comments, RN-98: The Plan implies that tree species is irrelevant with respect to shade (Plan p.13-14). Conifer shade is more desirable than alder shade because conifers use less water during summer, grow taller and provide long lasting large wood habitat for fish.

Response: System Potential vegetation is defined as “the vegetation and resulting percent effective shade that could be expected given mature native riparian vegetation in the absence of human impact.” This would include a progression to a late-successional, conifer-dominated forest (where appropriate).

Surrogate Targets: Channel Width

- 1.93 Comments, NEDC: The second measure, intended to decrease channel width, lacks the means to achieve the ends. Specifically, it lacks scientific basis and measurable success. If the geomorphology of the river does not change, how then will the water be accommodated? As water takes the path of least resistance, how are newly planted shrubs expected to encroach on the river’s path?

Response: The current channel conditions throughout most of this watershed are badly degraded; riparian vegetation has been reduced or completely eliminated and large inputs of sediment have resulted in wide, shallow and unstable stream channels. The proposed management measures, which concentrate on riparian zone restoration, will result in not only increased shading of the streams but will also serve to stabilize the stream banks (thus reducing sediment inputs from eroding banks) and improve channel morphology. Additional improvements will come as new land management practices on upland timber lands further reduce stream sediment loads. As the stream channel morphology and bank stability improve revegetation (both natural and by planting) of the riparian zones can proceed.

- 1.94 Comments, BLM: “early seral” means 0-39 years of age, “mid seral” means 40-100 years of age, “late seral” means 100+ years of age, “mature vegetation” will be replaced in the document with unharvested full grown tree, “densely stocked” refers to >70% shade density, statements referring to percent conifer or hardwood are referring to the percent overstory as seen from an aerial photograph. “Years for recovery of vegetation” are referring to shade producing streamside vegetation and does not attempt to take into account storm intervals or other natural disturbances nor the time for point bar development and associated changes in the channel prior vegetation establishment.

Response: The recommended changes have been incorporated into the final version of the TMDL/WQMP and Appendix F.

Woody Debris

- 1.95 Comment EB: Placement of large woody debris in the stream channel may result in changes in flow patterns that will adversely impact downstream properties. The commentor stated that he has

already been the victim of just such an occurrence and wanted information on who had placed the large woody debris upstream of his property and whether they were legally responsible for the damage caused.

- 1.96 Comment RN-SPROJECT: He objected to the proposal to add large woody debris to the stream channel; he feels this is dangerous given the very unstable nature of the sediment in the stream channel.

Response 1.95 and 1.96: DEQ agrees that placement of large woody debris in stream channels may result in changes in flow patterns with potentially adverse effects on downstream properties. This is particularly true of degraded channels which are very unstable and where development has occurred in close proximity to the stream channel. For these reasons, local experts must be consulted prior to the placement of any large wood in a stream.

- 1.97 Comment: RN-98: Habitat for salmonids is being degraded by salvage logging in the stream channel. Trees which fall into the channel are bucked up for commercial purposes leaving only the root wad. Areas where this occurred subsequent to the 96/97 flood are shown on 1997 Sucker Creek Stream Survey maps available from the Forest Service. The point being that it does little good to protect riparian trees if the trees are removed from the channel by humans thus depriving fish of their benefits. Spending money to add wood artificially to stream channels is wasted if trees which fall into the stream channel cannot be protected from salvage.

- 1.98 Comments, RN-98: Prohibit all types of salvage logging in Sucker Creek, its side channels, active channel and low floodplains.

Response 1.97 and 1.98: Salvage logging within stream channels is strictly regulated by the Oregon Forest Practices Act and the Oregon Department of Forestry. Removal of large woody debris is only allowed after filing of a management plan and then only in specific circumstances when necessary to protect structures or property from damage due to changed stream flows.

Loading Allocation/ Wasteload Allocations

- 1.99 Comments, EPA: *Page 19, Loading Capacities and Allocations.* The Loading Capacity should be listed in the box along with the Allocations, as per the title of the section. The “Load Allocations” explanation should state that the numeric criteria are not met and because of this the “no measurable surface water temperature increase resulting from anthropogenic activities” is triggered for the watershed. It should also be stated that the load allocation for forestry, agriculture, urban and future sources is 0%. Load Allocations should also be defined as the portions of the loading capacity that are given to natural, human, and future nonpoint pollutant sources. The “Wasteload Allocations” explanation should include a sentence about any future sources that may impact the watershed. To allow for future discharge without revising the TMDL, it is suggested that these receive a WLA of “no-measurable increase in surface water temperature.” Wasteload Allocations should also be defined as the portion of the loading capacity that is given to point sources. The loading capacity, as defined in the first paragraph, should read similar to the Loading Capacity section of the Tillamook Bay Watershed TMDL (page 75 section 3.1.7 of the TMDL approved by EPA on July 7, 2001). The second paragraph in this section should be re-written to define loading capacity as described in the above comment. Current and future mining issues should also be addressed, and a wasteload allocation of “no measurable increase” should be assigned to the mining activities.

Response: The recommended changes and references have been incorporated into the final version of the TMDL/WQMP

1.100 Comments, EPA: *Page 19, Table 9.* The Point Source wasteload allocation for NPDES Permit holders should be “no measurable increase.”

Response: The recommended changes have been incorporated into the final version of the TMDL/WQMP.

1.101 Comments, SREP: The TMDL Fails to Specifically Identify Non-Point Sources. The TMDL itself should clearly name all the specific sources for which allocations in the TMDL are being made. The TMDL's discussion of existing sources is generally unhelpful because it fails to make any geographic representation of where the sources contribute loadings to the identified streams. Likewise, the TMDL should assign an approximate contribution of the loads or surrogate measures to each of those sources, to the extent that the information is known, in order to establish publicly the need to take action, to allow for discussions of equity in the pollution control actions that are required to be taken as between sources, and to assure that responsibility is taken in the future and/or enforcement actions instigated by regulatory agencies.

Response: -The TMDL (Table 11 page 27) identifies the sources of stream heating in the watershed. “Existing Sources” are identified as “*Anthropogenic sources of thermal gain from riparian vegetation removal*” (natural, forest, agricultural, urban, and future). The “Load Allocation” for all anthropogenic sources is zero; “100% of load allocation for temperature is given to natural sources. No additional allocations are available.” The riparian zone improvement and shade restoration requirements specified in the TMDL and WQMP apply equally to all lands in the watershed.

Water Quality Attainment

1.102 Comment: SREP: The goal of the TMDL must be attainment. The goal of any TMDL must be attainment. §303(d)(1), 33 U.S.C.A. §313. There is nothing in the proposed TMDL or WQMP that indicates that attainment is anything but a fantasy for the Lower Sucker Creek Watershed. As discussed elsewhere in these comments, there is no definitive analysis that proposed plans will restore the integrity of the aquatic environment sufficient to meet water quality standards. The WQMP should state not only the goals and objectives, but the necessary steps to get the water bodies of the Lower Sucker Creek to those objectives and goals. Tables in the WQMP and the TMDL repeatedly list the desired conditions, time frames, and goals and objectives, but never concretely indicate how they will be achieved. Where the TMDL should establish the goals and allocations, the WQMP should establish the methodology of attaining those goals (such as finite time lines for restoration actions and incentives for meeting those timelines). The WQMP does contain a Proposed Restoration Strategy for Lower Sucker Creek, but the WQMP states that it is “a suggested approach for informational purposes and should not be misinterpreted as a required approach.”

Response: The WQMP is not intended to be a detailed, hard and fast prescription for all restoration activities on all land use types throughout the watershed. Instead, the DMAs responsible for regulating the various land uses (federal and private timber production, agriculture, and rural residential development) are charged with developing and implementing specific water quality management plans to the extent of their legal authority. DEQ is committed to reviewing and, if necessary, revising TMDLs every five years. If a watershed or basin is found to not be making satisfactory progress toward meeting water quality standards, additional restoration measures may be required.

1.103 Comment: SREP: The TMDL lacks the necessary analysis of time frames for attainment of targets. The time frame for attainment of standards is directly applicable to support of the beneficial uses, because at least one of the existing uses (coho salmon) are under the threat of extinction. The time that passes until full attainment of standards could have a substantial impact on their very existence. Neither the draft TMDL nor WQMP contain any analysis or justification for the dates that are chosen to meet goals, interim targets, and objectives. There is no analysis that these time frames are realistic, represent the fastest possible time frame for attainment, or will have any bearing on the pollution control measures chosen. As such, the TMDL does not demonstrate that it will lead to

attainment of standards because if the time frame is too long, attainment may be impossible due to extinction of the resident species, and if the time frame is too attenuated, there is no reason to believe that the goals of the TMDL will ever be reached.

Response: The initial goal of this TMDL is to prevent any further degradation of the watershed due to human activities. Restoration of the stream channels and re-establishment of riparian vegetation and associated shading will necessarily rely on natural processes which will take several decades to achieve. DEQ is committed to a five year time-frame for review of completed TMDLs to determine the effectiveness of the restoration efforts and whether any additional measures are required. It is recognized that the restoration of natural conditions throughout the watershed may take considerable time.

1.104 Comments, SREP: The TMDL fails to make appropriate connections between the total loading capacity and/or allocations presented as surrogate measures to the determination of the necessary control actions. By failing to pass that second test, the TMDL becomes an academic exercise, rather than an effective analysis. Nowhere in the TMDL or the WQMP is there an analysis of what steps must be taken in what time frame to meet the goals or objectives presented therein. The interim and final goals and their associated time frames for achieving temperature standards are too indefinite to satisfy the goals of the CWA. In addition to the surrogate measures analysis present in the draft TMDL, in order for the TMDL to direct appropriate actions, the TMDL must first make a thorough and site-by-site assessment of the status and extent of eroding bank, shade cover, and sedimentation.

Response: The TMDL states (Page 26) the *Loading Capacities* in the Sucker Creek Watershed consist of (1) NPDES permitted point source allocations (*Waste Load Allocations (WLA)*) and (2) nonpoint sources inputs referred to as *Load Allocations(LA)*. The loading capacities for temperature in the Lower Sucker Creek Watershed are defined as the solar radiation loading profiles at System Potential based on near stream vegetation characteristics and channel morphology conditions in the absence of anthropogenic disturbance. In other words the *Loading Capacity* is defined as System Potential vegetation and 100% of the *Loading Capacity* is given to natural sources. The necessary control actions are those steps necessary to achieve System Potential conditions as defined in Tables 12 and 13. How the DMAs will achieve System Potential is stated in their individual implementation plans. If it is determined through future monitoring that these plans are insufficient or are not being implemented as specified, DEQ can request modifications or take enforcement action as appropriate.

Site-by-site analysis of eroding banks, shade cover, and potential sedimentation sources has been performed as a part of the vegetation analysis shown in Appendix F, Stream Shade and Channel Condition Assessment performed by Hydro Dynamics P.O. Box 633, Grants Pass, OR 97578. The basis of the report is a reach based assessment that includes an assessment of current conditions: bankfull width, tree height, shade density, aspect, percent overhang, ODF stream type, bank stability, Rosgen type, gradient, vegetation composition. This information in spreadsheet form is available to the DMAs to assist in developing site-specific management plan objectives.

1.105 Comments, SREP: In short, there is no basis presented in the TMDL for the surrogate measure targets and the dates by which they will be met. To do so, these surrogate measures should 1) consider existing conditions, 2) create resilience in the system at the outset, 3) lead to attainment in the shortest possible time, and 4) address all of the needs of the uses and the narrative criteria. Surrogate measures that simply interpret water quality standards are only one half of the equation.

Response: As stated in the text: the Lower Sucker Creek TMDL incorporates measures other than “*daily loads*” to fulfill requirements of the Clean Water Act. To meet loading capacity targets, this TMDL relies upon surrogate measures which, when fully implemented, will meet the BTU/ft²/day TMDL target. The use of surrogate measures as targets for TMDLs is further defined under “*other appropriate measures*” as provided under EPA regulations [40 CFR 130.2(i)]. The surrogate measure targets and timeframe for recoveries are based on site-by-site analysis as shown in Appendix F, Stream Shade and Channel Condition Assessment performed by Hydro Dynamics P.O. Box 633, Grants Pass, OR 97578. The basis of the report in Appendix F is a reach based assessment that includes an assessment of current conditions as stated in the response to Question 1.104 above. Through mathematical modeling we have demonstrated that the attainment of *System Potential* conditions for both vegetation and channel form will result in meeting the

Loading Capacity for Lower Sucker Creek. It is our belief that a *System Potential* condition achieved using native vegetation will also result in an ecologically resilient system.

1.106 Comments, RN-98: By splitting the watershed, the Forest Service could be found to be in compliance with the temperature requirement, but there would be no hope for meeting temperature standards on private lands because the water would already be at or near the 64 degree F standard when it leaves Forest Service Lands. In other words the Forest Service would be off the hook for the temperature standard and private land owners would be left holding the bag with water too warm to ever meet the standard because of natural stream warming in a downstream direction.

Response: DEQ recognizes that this watershed must be considered as a whole and that stream temperatures in the lower end (where private ownership predominates) are heavily influenced by land management activities on the mainly federal lands in the upper watershed. The water quality standard requires no anthropogenic increases in surface water temperatures for all land uses in the watershed.

Reasonable Assurance of Implementation

1.107 Comments, BLM: Page 25, Chapter 1, Reasonable Assurance of Implementation, Federal lands: Replace existing section with the following: “Federal land management is guided by the Northwest Forest Plan which includes the Aquatic Conservation Strategy. The Northwest Forest Plan created a range of alternatives to comply with existing laws, maintaining the highest contribution of economic and social well being. The Record of Decision outlines the preferred alternative and created a system of reserves to protect the full range of species. The biological objectives of the Northwest Forest Plan include assuring adequate habitat on Federal lands to aid the recovery of late-successional forest habitat associated species listed as threatened under the Endangered Species Act and preventing species from being listed under the Endangered Species Act.”

Response: The recommended changes have been incorporated into the final version of the TMDL/WQMP.

1.108 Comments, BLM: Page 79, Chapter 2, Reasonable Assurance of Implementation, Federal BLM lands, Replace with: The recovery of habitat conditions for BLM lands in the Lower Sucker Creek Area will be dependent on implementation of the Aquatic Conservation Strategy Objectives in the Medford District RMP.

Response: The recommended changes have been incorporated into the final version of the TMDL/WQMP.

1.109 Comments, BLM: Page 79, Chapter 2, “The recovery of habitat conditions for BLM lands in the Lower Sucker Creek Area will be dependent on implementation of the Aquatic Conservation Strategy Objectives in the Medford District RMP. Management of NWFP riparian reserves may include proactive management such as density and fuels management. Some instream large wood placement may be beneficial where there exists conducive channel and riparian conditions.”

Response: The recommended changes have been incorporated into the final version of the TMDL/WQMP.

Implicit Margin of Safety

1.110 Comment: EPA: *Page 23, 7. Margin of Safety.* The second sentence of the first paragraph should read “A MOS may either be expressed...” The last sentence of the first paragraph should read “The Lower Sucker Creek temperature TMDL...” The third bulleted item should read “Tributary and upstream temperatures...”

Response: The recommended changes have been incorporated into the final version of the TMDL/WQMP. Bulleted item #3 in the MOS was modified to read:

- Mainstem Sucker Creek modeling used current tributary temperatures as inputs into the future condition scenario. Improvements in effective shade on the tributaries are expected to have an effect on water temperatures. This additional cooling was not factored into the model and is considered a MOS

1.111 Comments, NEDC: Not one of the items listed in the margin of safety (MOS) gives quantifiable data. Listed are: groundwater inflow, vegetative shade overhang, tributary temperatures, modeling at worst-case scenarios, and Heat Source modeling. Groundwater was assumed to be zero but we do not know that this was not already accounted for in the surrogate measures, in which case there would be no value in naming this as a margin of safety. No quantifiable data is given to the overhang values but it says they are currently very low and likely to increase in the future. How long will it take for overhang to increase? How much benefit do overhang values typically provide? It does not seem reasonable to consider this a real margin of safety without any further data. Without any guarantee that the tributary temperatures will decrease, is saying they were not changed upon an improvement in future riparian conditions in the model a viable margin of safety? Again, no quantifiable data is given to what extent tributary temperatures will decrease or on what time frame these decreases can be expected. The Margin of Safety elements included as they are without any quantifiable measures are not sensible as margins of safety.

Response: Both implicit and explicit margins of safety are allowed in a TMDL. The MOS in Lower Sucker Creek is implicit because it is based on conservative analysis. The validation of the MOS will take place over time through adaptive management. The adaptive management approach provides ongoing updates to interim goals with ongoing refinement to lessen the uncertainty over time. During the decades to come, as more information regarding potential and capability emerges through progress and research, the TMDLs and margins of safety will be re-evaluated.

Regarding tributary temperatures, MOS Bullet #3 (Page 33) has been modified to state: “Mainstem Sucker Creek modeling used current tributary temperatures as inputs into the future condition scenario. Improvements in effective shade on the tributaries are expected to have an effect on water temperatures. This additional cooling was not factored into the model and is considered a MOS”. The increase in percent effective shade on assessed tributaries is expected to increase from 88-96% for Bear Creek, 86-96% for Little Grayback, 81-96% White Rock, 75-96% Windy Creek. This increase in shade on the tributaries reflects a conservative approach in modeling and is considered a valid MOS.

1.112 Comments, EPA: We would emphasize that cumulative impacts are important throughout the entire hydrologic system of the watershed. The idea is to prevent heating as much as possible throughout the watershed and to maintain or restore natural landscape hydrologic functions that tend to keep cold water cold. We are pleased to see that important contributing factors that are not yet quantified have been considered as implicit margins of safety. These factors are things like groundwater input, vegetative overhang, and tributary temperatures. Because of the cumulative nature of temperature dynamics, the role of small and intermittent streams should also be factored into protection and recovery planning.

Response: None required.

Adaptive Management

1.113 Comments, NEDC: The “Adaptive Management, Review, Prioritization and Revision” section is too vague. Instead of mentioning that a monitoring program and data collection will occur, the WQMP needs to identify which agency will be the lead agency in terms of collecting the data, assessing the data and how those results will be communicated to the respective agencies. Additionally, aside from saying the “monitoring will ascertain whether the management actions need to be changed,” this section needs to address what type of a timeline and checkpoints will be in place to make these determinations. As well as, what type of a backup plan will exist, if in fact the management actions need to be changed?

Response: The Department will be the lead agency responsible for collecting and assessing data on watershed health and how efforts to restore the environment are progressing. Subject to available resources, DEQ intends to review on a five-year basis the progress of the TMDL and the WQMP. DEQ expects that each DMA will also monitor and document its progress towards achieving the water quality standards and the success of implementing the WQMP. When shortcomings are identified, DEQ will work with the appropriate land management agencies to revise their Implementation Plans to correct the deficiencies. Adaptive Management is discussed more fully in Appendix B of the TMDL/WQMP.

1.114 Comments, NEDC: The TMDL and WQMP stand subject to loose standards and inadequate assurances. While the “Adaptive Management” idea theoretically works, it fails in reality because it lacks foundation. Adaptive Management is defined loosely by DEQ to mean, “process of implementing policy decisions as scientifically driven management experiments that test predictions and assumptions in management plans, and using resulting information to improve the plans.” (P86 TMDL). In order to manage under those auspices, it is essential to include external review and recommendations by scientists. This component ensures that controlling agency bias and politics do not drive the restoration effort. This component is lacking from both documents. Therefore, the conclusion that the project will be adaptively managed to bring improved water quality is false. What distinguishes this proposal from other watershed management strategies? There is no difference. In other words, the proposed TMDL and WQMP are bound by the narrow confines set upon them. Those being, the limited water quality factors incorporated into achieving a TMDL, and lack of reasonable assurances. If the TMDL and WQMP do not incorporate flow, habitat, and upland land management factors, as well as appointing responsibilities, the ability to “Adaptively Manage” for water quality is impaired.

Response: The Department has adopted an adaptive management approach for implementation. This approach requires the management agencies to develop benchmarks for interim measures leading to the attainment of TMDLs. These interim measures will be used to measure progress. Where implementation of the WQMP or effectiveness of management techniques are found inadequate, the Department expects DMAs to revise the components of the WQMP to address these deficiencies. This would include taking into account new information, as it becomes available. The Department also intends to review progress on the TMDL and the WQMP on a five-year basis.

DEQ will consider reopening the TMDL should new information become available indicating that the TMDL or its associated surrogates need to be modified. Changes to the existing TMDL will incorporate a public review process and interested parties will have an opportunity to comment on the proposed changes.

Flow enhancement and habitat restoration are recognized as key components of this TMDL/WQMP. The upper parts of this watershed are used almost entirely for timber production; as such, the management practices on these lands are governed by either the Oregon Forest Practices Act or the Northwest Forest Plan both of which incorporate sediment and erosion control, riparian zone protection and road management practices.

The TMDL/WQMP process is open to independent scientific review during the 60 day public review and comment period. As a part of the adaptive management process, external reviewers will be included when the TMDL is reviewed. Additionally any changes made in the TMDL/WQMP will again be subject to public review and comment..

1.115 Comments, SREP: The TMDL proposes to use adaptive management but provides no process for subsequent monitoring and revision. While the Lower Sucker Creek TMDL discusses using adaptive management, there is nothing in the TMDL that establishes when and how this approach will be taken. The claimed benefits of this process need to be tangible and achievable. The TMDL/WQMP contains vague, undefined statements such as "Subject to available resources, on a five-year basis, DEQ intends to review the progress of the TMDLs and the WQMP" and "DEQ expects that each DMA will also monitor and document its progress in implementing the provisions of its Implementation Plan." Appendix B, Page 3. These sentences suggest that adaptive management is viewed primarily as revising current estimates of the margin of safety and the TMDL. As much as certain calculations and predictions should be repeatedly reassessed and

reviewed, the term "adaptive management" should not be an excuse for the DEQ to not develop as complete and thorough and accurate a document as it might if "adaptive management" didn't exist. More importantly, adaptive management should not be simply the means by which allocations and loads are re-quantified, but should be the process through which the necessary loads and allocations are achieved. The danger is that, through the use of "adaptive management," goals will change rather than means to achieve the necessary goals.

Response: The Department is committed to employing an adaptive management approach to the development of TMDLs and implementation of WQMPs. In employing an this approach to the TMDL and WQMP, DEQ has the following expectations and intentions:

- Subject to available resources, on a five-year basis, DEQ intends to review the progress of the TMDL and the WQMP.
- In conducting this review, DEQ will evaluate the progress towards achieving the TMDL (and water quality standards) and the success of implementing the WQMP.
- DEQ expects that each management agency will also monitor and document its progress in implementing the provisions of its component of the WQMP. This information will be provided to DEQ for its use in reviewing the TMDL.
- As implementation of the WQMP proceeds, DEQ expects that management agencies will develop benchmarks for attainment of TMDL surrogates, which can then be used to measure progress.
- Where implementation of the WQMP or effectiveness of management techniques are found to be inadequate, DEQ expects management agencies to revise the components of the WQMP to address these deficiencies.

When DEQ, in consultation with the management agencies, concludes that all feasible steps have been taken to meet the TMDL and its associated surrogates and that attainment of water quality standards is not practicable, it will reopen the TMDL and revise it as appropriate. DEQ would also consider reopening the TMDL should new information become available demonstrating that the TMDL or its associated surrogates should be modified.

Monitoring

1.116 Comments, SREP: Monitoring and revision must have specific guidelines. Even if this TMDL will be implemented through adaptive management, this type of implementation does not preclude concrete plans for monitoring and revision. To begin with, the TMDL itself mentions the inherent ability of revision in the adaptive management process, but says nothing more about how such a process would occur. Also, the WQMP's provisions for monitoring are sparse and ill-defined. Even where it gives set intervals for monitoring, very few elements will be assessed annually. Some parameters, such as habitat modification, will only be monitored in an average seven year cycle, in spite of the importance of improving channel complexity. WQMP at 82. Channel form and upland sediment abatement will only be monitored on a 10 year basis. WQMP at 82. Such infrequent monitoring plans, for such important parameters, decrease the effectiveness of adaptive or other types of management. Simply indicating that the DMA's will administer some of the programs, WQMP 80 - 83, gives the reader no clear idea of what type of monitoring will occur. Given the state and federal agencies' poor track record of monitoring and their perennial budget difficulties in this area, and Josephine County's inexperience and budget difficulties, such "assurances" are not "reasonable" and do not comply with the CWA's requirements.

Response: Adaptive management as defined in Appendix B states: "In employing an adaptive management approach to the TMDLs and the WQMP, DEQ has the following expectations and intentions. Subject to available resources, on a five-year basis, DEQ intends to review the progress of the TMDLs and the WQMP". Appendix B further states: "Where implementation of the Implementation Plans or effectiveness of management techniques are found to be inadequate, DEQ expects management agencies to revise the components of their Implementation Plan to address these deficiencies". Potential enforcement action is also covered in this section.

In the final TMDL, Monitoring Plan Section (Section 10, Page 87) has been modified to include the monitoring plans for the IVSWCD in addition to the plans for BLM and USFS. Josephine County is not included in the current list and it is DEQs expectation that they will develop a monitoring plan in conjunction with their Implementation plan. DEQ will provide technical assistance to aid in the development of monitoring plans.

1.117 Comments RN-98: The Forest Service should be required to monitor turbidity on at least a daily basis and suspended sediment (when conditions warrant). If turbidity exceeds 200 ntus for 24 hrs, then suspended sediment is monitored in addition to turbidity and DEQ is notified within 24 hrs. If turbidity exceeds 200 ntus for greater than 48 hrs, then a report must be filed with DEQ outlining the cause of the turbidity and corrective actions taken or planned. (The same kind of reporting required of industrial polluters or municipal waste facilities when they have a spill)

Response: Sucker Creek is not on the 1998 303(d) list for sediment. The USFS is not currently required to monitor turbidity, however such data could be very useful to locate problem areas and to better understand the type of storm event required to cause an increase in suspended sediment. Current turbidity regulations state that a 10% increase over background levels for more than 2 hours in a 24 hour period is considered a violation.

1.118 Comments, RN-98: Monitor streamflow at several locations on private lands.

Response: The Oregon Water Resources Department monitors stream flows at one site year round and at three others only during the dry months of the year.

1.119 Comments, RN-98: Identify minimum flows for sustaining salmonids at monitoring locations.

Response: Establishing the minimum flows needed by salmonids at various points in the watershed is the responsibility of ODF&W. Minimum flows have been established (priority date of 1989) and instream water rights have been applied for and granted by OWRD (Table 14, Page 31).

TMDL/WQMP Enforcement

1.120 Comments, SREP: Beyond the fact that the WQMP fails to fully consider the contributions of federal land use practices on the watershed, it also provides NO means of implementation or enforcement, for either public or private entities.

1.121 Comments, SREP: The Clean Water Act explicitly states there must be adequate authority and implementation. §303(e)(3)(E and F), 33 U.S.C.A. §1313. The TMDL and/or the WQMP should establish the roles of participating agencies to ensure sufficient non-point source controls to meet the requirements of the TMDL as well as spell out the details that are necessary. A mandatory monitoring and reporting system done by the Forest Service must be established so that the DEQ remains informed about the effects of Forest Service practices on the Lower Sucker Creek waterways. Finally, regulatory means through which enforcement will be achieved as to private landowners must also be indicated.

Response 1.120 and 1.121: The implementation of TMDLs and the associated management plans is generally enforceable by DEQ, other state agencies, and local governments. However, it is envisioned that sufficient initiative exists to achieve water quality goals with minimal enforcement. Should the need for additional effort emerge, it is expected that the responsible agency will work with land managers to overcome impediments to progress through education and technical support. Enforcement may be necessary in instances of insufficient action towards progress, occurring first through direct intervention from the DMAs: ODF, ODA, Jackson County, and ODOT and secondarily through DEQ. DEQ enforcement may be based on departmental orders to implement management goals leading to water quality standards.

A reporting requirement was established for the USFS in the 1999 Sucker/Grayback TMDL as stated in Chapter 4: “A biennial report outlining progress and tabulation restoration projects will be submitted to Oregon DEQ by the Illinois Valley Ranger District. Should monitoring reveal that interim goals are not on schedule, changes related to this Water Quality Management Plan will be made. These changes might include re-evaluation of assumptions, and/or new restorative treatments.”

1.122 Comments, BLM: Page 83-85, Chapter 2, Section 12. Citation to Legal Authorities: Please add the following section under a heading entitled “Federal Lands.” Federal land management is guided by the Northwest Forest Plan. The Northwest Plan creates a system of reserves to protect the full range of species. Biological objectives of the Plan also include assuring adequate habitat on Federal lands to aid the recovery of late-successional forest habitat associated species and the prevention of species from being listed under the Endangered Species Act. The Aquatic Conservation Strategy is an essential component of the Northwest Forest Plan which ensures stream, lake, and riparian protection on Federal lands. The intent is to maintain and restore water quality and aquatic ecosystem functions.”

Response: The recommended changes have been incorporated into the final version of the TMDL/WQMP.

1.123 Comments, RN-98: 1. There are no enforcement provisions in the Water Quality Management Plan. At the December 9 (1997) meeting in Cave Junction, the DEQ admitted the Plan is entirely voluntary with respect to enforcement by DEQ. Even if enforcement is pursued, how will Oregon Department of Environmental Quality, a state agency, exert authority over a federal agency (U.S. Forest Service) on federal lands?

Response: Enforcement of the WQMP will be left up to the DMA (Josephine County, ODF, ODA, ODOT) to the extent of their authority to regulate a land use on a specific property. DEQ is the designated state agency with primacy for enforcing the Clean Water Act throughout Oregon. In this capacity, DEQ acts as a delegate of the US Environmental Protection Agency and has enforcement authority over all federal lands in the state.

1.124 Comments, NEDC: A significant amount of land is owed privately within the Lower-Sucker Creek watershed, what type of enforcement will the DEQ exercise? The DEQ needs to spend more time focusing on private land use. The report mentions private land use, however, does not go further into how the private land uses impact Lower Sucker Creek Watershed. Considering that 52% of the land in this watershed is zoned for private land use, which includes: timber resources, agriculture, and rural residential uses, the DEQ needs to address this area more substantially. Even if the DEQ does not have direct enforcement power over private landowners, their activity has a significant affect on the Creek. These impacts need to be taken into consideration when setting our water quality goals

Response: Private lands in this watershed will be regulated (and subject to enforcement) by the appropriate DMA as determined by land use. DMAs are expected to regulate to the full extent of their authority. Private timber lands are covered by the Oregon Forest Practices Act (regulated by ODF), agricultural operations by the Inland Rogue Agricultural WQMP (regulated by ODA), and rural residential lands regulated by Josephine County.

1.125 Comments, NEDC: What mechanisms are in place to ensure that the identified agencies will fully cooperate and participate to reach the described goals?

Response: This TMDL/WQMP is being developed as required by the Federal Clean Water Act . All DMAs must comply with this act to the full extent of their authority. Through an adaptive management process DEQ, will monitor the DMAs progress to ensure that TMDL targets and milestones are being met.

1.126 Comments, NEDC: On pages 45-46 of the WQMP the DEQ identifies several agencies and Josephine County as “responsible” for the implementation of this plan. Despite the included “Reasonable Assurance of Implementation” section, DEQ leaves several important areas vague, in terms of explicit agency cooperation, data sharing, plan enforcement, etc. The entire WQMP is especially vague in the enforcement of the plan.

Response: The Department advocates for assurance of implementation and accountable measures of progress, but also recognizes that communities, citizens, and agencies have not completed the planning and budgeting that is vital to effective implementation and monitoring. A major goal of the plan is to provide the framework for the to direct the development of implementation plans and schedules. For example, the urban component of the WQMP calls for review of existing programs and the development of rules, policies or plans for TMDL implementation, and does provide a schedule for this to occur. It is important to recognize that major aspects of TMDL attainment in the Sucker Creek Watershed, for nonpoint sources, will require long-range planning, much of which occurs under the authority of state and local government entities. Processes for the modification of implementing mechanisms (i.e., Forest Practices Act, SB 1010 plans) are defined by various interagency agreements. This is the heart of adaptive management process that ensures TMDL implementation over time.

ESA Consultation

1.127 Comments, LC-Sproj: The WQMP Must Include Consultation with the National Marine Fisheries Service to Comply with the Endangered Species Act. Section 7 of the Endangered Species Act (ESA) requires that federal agencies consult with the National Marine Fisheries Service (NMFS) on any agency action which is likely to jeopardize the species or result in adverse modification of critical habitat for each species. §7, 16 U.S.C.A. §1536(a)(4). In this case, because the WQMP will have a great effect on the habitat for salmon species, consultation with NMFS is both appropriate and necessary. Furthermore, even though the DEQ may sign off on this WQMP in an effort to keep it a state document, the roles of United States Forest Service (USFS), the Bureau of Land Management, and the Environmental Protection Agency (EPA) make the development and implementation of the WQMP a federal action. Review by the EPA, and its role in preparing the WQMP, is a federal action. The Clean Water Act stipulates that once a state has developed a TMDL, it must submit it to the EPA for approval. §303(d)(2), 33 U.S.C.A. §1313. If the Administrator (EPA) does not approve the TMDL, the Administrator must develop its own TMDL which satisfies the requirements of the Clean Water Act. *Id.* The process of reviewing TMDLs and giving approval easily falls under the definition of “authorization” under §7 of the ESA. Also, the requirement that the Administrator must develop its own TMDL if the state’s TMDL fails, is clearly an action carried out by a federal agency. §7, 16 U.S.C.A. §1536(a)(2). The same requirements of submission for approval apply to the state’s development of Water Quality Management Plans. §303(e)(2), 33 U.S.C.A. §1313. Even though the EPA does not have the responsibility of developing its own WQMP, the process of reviewing and approving the state’s WQMP clearly falls under the ESA’s definition of federal action. §7, 16 U.S.C.A. §1536(a)(2). Therefore, before approving or disapproving the Lower Sucker Creek TMDL/WQMP, the EPA must submit them to NMFS for consultation.

Response: (From EPA): The current CWA regulations, 40 CFR, Part 130.7, require the EPA to approve or disapprove TMDLs. This duty applies only to the loadings set forth in the TMDL. That requirement does not extend to implementation plans that may accompany the loadings in the TMDL. As part of the February 1, 2000, Memorandum of Agreement between EPA and DEQ, Oregon has agreed to develop implementation plans concurrently with the TMDL and provide copies of those plans to EPA for review and comment. Under Section 303(d), EPA is not required to act on those plans - either to approve or disapprove them. EPA is only required to approve or disapprove the TMDLs (loadings). Furthermore, EPA’s review and comments on those implementation plans does not constitute an action requiring consultation under Section 7 of the Endangered Species Act (ESA). Also, under Section 303(e) EPA is not required to approve or disapprove individual plans.

DEQ works closely with the Designated Management Agencies (DMAs) during the development of the Water Quality Management Plan (WQMP). While there is no legal provision for direct consultation as defined in the ESA between NMFS and DEQ on WQMPs, EPA will continue to solicit input from agencies having ESA interests in WQMPs, such as NMFS and USFWS. It is up to the federal DMAs, including BLM and USFS, to consult with NMFS on their individual implementation actions or plans.

Water Quality Management Plan and Management Issues

1.128 Comments, RN-SPROJECT: Measure 7 eliminates any effective enforcement at the state or county level; therefore, conservation easements should be aggressively pursued.

1.129 Comments, RN-98: Purchase conservation easements to compensate land owners for lost opportunities to salvage log from the stream channel.

Response 1.128 and 1.129: Conservation easements are a viable way for DMAs to assure that areas are managed to meet TMDL targets and other environmental enhancement objectives.

1.130 Comments, EPA: DMAs and the watershed groups are also encouraged to take credit for stewardship activities that have been undertaken which are not required by FPA and which help achieve the targets set forth in this TMDL.

Response: No response is required.

1.131 Comments, RN-SPROJECT: . Finally, there is a need for protection of beaver in this system

1.132 Comments, RN-98: Beaver are not identified as an important factor in providing cool water for salmonids. Beaver often construct dams in spring brooks which provide cold water refugia for salmonids. On Sucker Creek Beaver ponds are often found to be 5 or more degrees F. cooler than the adjacent flowing mainstem.

Response 1.131 and 1.132: The WQMP lists a number of possible approaches for achieving stream temperature, habitat , and flow standards but does not impose any limits on the approach that may be taken. If the DMAs in the watershed determine that programs to establish spring brook refugia and beaver populations are appropriate restoration strategies, they will be considered viable strategies to implement.

1.133 Comments, CP: The SB1010 plan is unconstitutional; the Inland Rogue Plan should have been reviewed by the judicial system; it amounts to a taking of private property without compensation. The 1010 plan is so poorly written and so broadly applied that it can be misinterpreted at will. The 1010 plan amounts to totalitarian control of private property

Response: (Response from ODA) As issues of constitutionality related to ORS 568.900 through 568.933 arise, they are reviewed by the Office of the Attorney General for relevancy to existing state programs. As a matter of course, the ODA submits area plans and rules for review by the Office of the Attorney General for analysis of consistency with provisions of the Oregon and U.S. Constitutions Statutes. Plans and rules that have been developed to date have been reviewed and have been found to be constitutional and consistent with department authorities. The Office of the Attorney General has concluded that ORS chapters 561 and 568 clearly provide ODA with the authority to adopt rules.

1.134 Comments, NEDC: Since there is no guarantee to the participation of individual landowners, ranchers, and farmers in the Inland Rogue, what other management practices will the Department of Agriculture put into place to help meet the Sucker Creek Water Quality standards? The WQMP makes mention that Senate Bill 1010 was designed to maintain a certain flexibility in the farming and ranching community in terms of their ability to meet water quality goals and objectives. The WQMP also states that the Department of Agriculture has education programs and guides to help individual landowners meet their conservation objectives. However, how does the Department of Agriculture insure that the farmers and ranchers are aware of these programs and guides? Also, have this programs and guides been updated to reflect the new standards and goals of the WQMP? How does the farming/ranching community gain access to this information? The availability of such information is wonderful, however, entirely useless if the community does not know that these programs and guides are available.

1.135 Comments, NEDC: The WQMP needs to include in the Department of Agriculture section, how the DoA will make available this information, how they will update the information to meet the new Lower Sucker Creek Water Quality Standards and how they will monitor improvements in the farming and ranching communities.

Response 1.134 and 1.135: (Response from ODA) During the Inland Rogue biennial review, the ODA and LAC will review the adequacy of the plan and rules to address issues raised in the Sucker Creek TMDL. The Inland Rogue's focus on riparian function, which includes vegetative structure and capacity, should eventually meet the shade targets identified in the TMDL. If rule revisions are required, they will be developed at that time. Any additional conditions will be adopted into rule and any additional management practices that are identified to achieve the conditions will be identified in the plan. Thus, the rules provide an enforceable backstop where necessary, and the plan provides the strategy for outreach and education. The Inland Rogue plan identifies a strategy for informing farmers and ranchers of the water quality programs and guides associated with agriculture. The ODA works closely with the NRCS, SWCDs, and OSU extension service to maximize farmer/rancher access to this information. In addition ODA provides funding to the Jackson SWCD to be the local management agency in implementing the Inland Rogue plan and rules. Funding is also given to the Josephine and Illinois SWCD's to implement the conservation measures and intent of the Inland Rogue plan in their areas.

1.136 Comments, EPA: With the TMDL now in hand, EPA believes that the existing 1010 plan should be revised to better align with the TMDL load allocations. Since the scope of this TMDL is smaller than the 1010 plan, will there be a revision specifically for Sucker Creek? If not, when will the Inland Rogue AWQMP be revised and what will form the basis of that revision?

Response: (Response from ODA) Where TMDL's have been adopted for subwatersheds within an SB 1010 planning area, the ODA will consider the TMDL for that subwatershed during the biennial review of the plan and rules adopted for that geographic area. The Inland Rogue SB1010 plans scheduled biennial review is in the summer of 2003 which should coincide well with the Sucker Creek TMDL development and adoption schedule. During the biennial review the ODA and Local Advisory Committee will review the plan and rules in light of the TMDL. At that time, we would be interested in hearing EPA's perspective on why revisions to the Inland Rogue rules might be necessary. We believe the existing plan and rules are pretty inclusive and will be effective in addressing a wide range of water quality issues from agriculture in the Inland Rogue including those that will be identified in the Sucker Creek TMDL. By allowing continued agricultural use in the riparian area but requiring a trend toward more appropriate vegetative structural diversity, we extend the time line for achieving shade potential but will eventually reach it.

1.137 Comments, OCA: It is inappropriate to use an agricultural water quality management area plan (ORS 568.900-933) to provide a reasonable assurance that a TMDL load allocation for agriculture will be met. Under current law a load allocation developed in the establishment of a Total Maximum Daily Load (TMDL) is "attributed" to non point sources and background. It is not assigned to them (OAR 340-041-0006(19))

Response: (Response from ODA) The AgWQMA plan and rules are the means within Oregon to address water pollution from agricultural activities and rural lands. Loads attributed to agriculture and rural lands within the TMDL are expected to be addressed through the state's AgWQM program.

(Response DEQ) OAR-340-041-0026 (10) states that: "Agricultural water quality management plans to reduce agricultural nonpoint source pollution shall be developed and implemented by the Oregon Department of Agriculture (ODA) through a cooperative agreement with the Department of Environmental Quality (DEQ) to implement applicable provisions of ORS 568.900–933 and ORS 561.191. If DEQ has reason to believe that agricultural discharges or activities are contributing to water quality problems resulting in water quality standards violations, DEQ shall hold a consultation with ODA. If water quality impacts are likely from agricultural sources, and DEQ determines that a water quality management plan is necessary, the Director of DEQ shall write a letter to the Director of the ODA requesting that such a management plan be prepared and implemented to reduce pollutant loads and achieve the water quality criteria."

1.138 Comments, RS: Because previous studies on water quality have recommended the implementation of headwaters reservoirs in the Rogue River basin, we feel that the Lower Sucker Creek Water Quality Management Plan falls short of any long term solution to the real problem with water quality (temperature) on Sucker Creek or in the Illinois Valley. As stated in a May 1964 Bureau of Reclamation Study, the major problem is the number of high water temperature days. In fact the study indicates other creeks and streams would benefit from the installation of headwater reservoirs for control of temperature and waterflow. We submit that there are at least 3 other creeks and streams in the Illinois Valley which would benefit greatly if such an approach were taken: Dunn Creek on the East Fork Illinois, West Fork Illinois above Elk Creek, and the Headwaters of Deer Creek in Selma. In addition the Bureau also recommends reservoirs on Wood Creek of the West Fork Illinois and, Draper Creek, a tributary to Deer Creek. Attached was Draft proposal for multiple purpose headwater reservoirs in the Illinois Valley and creations of the “Oregon Caves Lake”.

1.139 Comments, JN: There should be a headwaters reservoir on Sucker Creek. This would solve water quality problems much sooner than waiting for the trees to grow.

Response 1.138 and 1.139: Storage reservoirs in the upper reaches of streams in this watershed may improve flow conditions in the affected streams (especially during the summer months) however DEQ does not have the authority to require this approach.

1.140 Comments, TK: State law requires that any rule or regulation affecting mining must be developed in consultation with all the affected parties (i.e., miners); the BLM land in the Lower Sucker Creek watershed is claimable for mining and this TMDL/WQMP could affect mining.

Response: The Lower Sucker Creek TMDL does not recommend any new regulations or restrictions on mining practices in the watershed. DEQ considers the current regulations governing mining to be sufficiently protective of the environment and water quality in the Sucker Creek watershed.

1.141 Comments, SOTIA: The Draft Plan on several occasions, e.g. page 25 and 77, when discussing private timberlands within the subbasin, refers to the Oregon Forest Practices Act. The Plan defers to the Department of Forestry for implementation of water quality protection on private lands. SOTIA believes this to be the appropriate course of action. Thus, we are in support of the Draft Plan as written.

Response: No response is required.

1.142 Comments, R&R: We are opposed to any DEQ expansion of Total Maximum Daily Load (TMDL) and permitting programs that would conflict with current regulations under the existing Oregon State Forest Practices Rules. The proposed new plan will hurt private landowners and the communities that support them all without providing significant environmental benefits. The protection through regulation is already in place. The costs imposed by these new rules will hamper economic development, and keep landowners from practicing sound and sustainable forest management on their lands. DEQ should continue its support of the many effective approaches already being undertaken by private landowners and the State Governor’s Salmon Restoration Plan.

Response: Under the Clean Water Act, EPA’s regulations and DEQ’s memorandum of agreement with EPA, Load Allocations for nonpoint sectors such as forestry must be established at the level needed to meet water quality standards. In the event that the load actually resulting from forest operations under current forest practice will not assure attainment of water quality standards, then ORS 517.765 requires the Board of Forestry to modify the BMPs to meet the load allocations to the maximum extent practicable.

The determination of a waterbody’s Loading Capacity for various types of pollutants must be determined as part of the TMDL process. That determination is based on a scientific assessment of the assimilative capacity of the waterbody for the pollutants for which the TMDL is being developed. Once the Loading Capacity has been determined, Wasteload Allocations and Load Allocations are set so that the Loading Capacity is not exceeded. The sum of the Wasteload Allocations and Load Allocations (and Margin of Safety) cannot be more than the Loading Capacity, or Total Maximum Daily Load. If forest practices are

the source of pollution exceeding water quality standards, then the Load Allocation process determines the reduction necessary to meet water quality standards.

DEQ does not specify management practices for private forest lands; that is the role of the Oregon Department of Forestry. DEQ's role, however, is to allocate loads that will result in pollutant reduction to meet water quality standards. How those pollutant reductions are achieved on private forest lands is the domain of the Department of Forestry.

There is currently a Memorandum of Understanding between the Department of Forestry and DEQ to study the effectiveness of the current Forest Practice Rules to meet water quality standards. This statewide "sufficiency analysis" will identify any needed changes to the Forest Practices Act that are needed to ensure compliance with water quality standards. The responsibility to act on those recommendations rests with the Board of Forestry.

1.143 Comment: R&R: The incentive to protect water quality is in place throughout the State of Oregon, through current regulations under the State Forest Practices Act and voluntary measures under the Governor's Plan. We are pleased to see your acknowledgement of the State Forest Practices Act regarding the management and regulation of private forestlands.

Response: No response is required.

1.144 Comments, NEDC: Simply stating that the private lands forestry uses are addressed in the Forest Practices Act is not detailed enough information.

Response: DEQ currently has a Memorandum of Understanding with the Oregon Department of Forestry which specifies that the state Forest Practices Act will serve as the WQMP for private and state-owned timber lands in Oregon,. A Sufficiency Analysis of the FPA as required under the MOU, is nearing completion and has identified changes in the FPA needed to ensure compliance with water quality standards.

1.145 Comments, NEDC: A list of six designated management areas is given with each area's means of approaching the TMDL without giving any concrete plan for how the agencies will work together to actually implement the plan. Regarding Rural Residential Areas, Josephine County will submit a water quality management plan addressing requirements of the WQMP explaining how they will implement it but with no real plan for how DEQ will work with them to implement the WQMP. Similarly on Federal Lands a good description is given of the Northwest Forest Plan but no mention of how they will work with DEQ or even address the TMDL/WQMP. Similarly, regarding agricultural activities, the TMDL states that the Oregon Department of Agriculture will work with DEQ to ensure that rules and plans meet load allocations but no explanation is given for how this will be done. It is mentioned under the section for transportation (ODOT) that highway pollutants influence temperature and sediment levels in the waterways but without any specific mention of highway pollutants earlier in the TMDL ODOT has no way to know that they might need to take action. No plan is given for how DEQ will approach ODOT. Finally, the Oregon Plan is mentioned as already addressing the water quality concerns of the Illinois River Sub basin but how their activities will affect or potentially affect the Lower Sucker Creek is not addressed. In conclusion, the Reasonable Assurance of Implementation provides little assurance without a more concrete plan for DEQ to work with each management area, instead of listing how each management area will make its own plan. In addition, no assurance is given that the TMDL/WQMP will actually be implemented.

Response: DEQ will be monitoring a variety of water quality parameters in this watershed during the coming years to determine whether satisfactory progress towards meeting standards is being made. The information gathered will be used to identify sources of pollutants which are not being sufficiently addressed. DEQ will then meet with the appropriate DMAs to determine what additional land management and restoration activities will be required to meet the goals of the TMDL.

ODOT road construction and maintenance and repair activities are regulated by a DEQ-issued General Permit (for each region in the state) that specifies pollution reduction requirements. If ODOT activities are found to be contributing unacceptable levels of pollutants to the watershed, the DEQ permit will be modified.

Upon approval of the TMDL by EPA, DEQ will work as expeditiously as practicable with DMAs to update permits and revise management plans in order to meet load allocations and waste load allocations, this will occur within 1-2 years. The revised management plans will provide more detail on the management measures that the DMA will implement along with schedules, interim milestones and monitoring plans. In many cases, it is difficult to develop this detailed implementation plan until after the TMDLs are approved.

1.146 Comments, NEDC: In this section (p. 71) the WQMP states, “ODOT is expecting that by controlling sediment load these TMDL pollutants will be controlled.” (p. 73). This is a very imprecise and disconcerting statement. What if this is not the result? Who is monitoring their sediment load? And what type of recourse will the DEQ take, if ODOT exceeds their TMDL pollutant discharge? It is also stated that, “Specific TMDL concerns that are directly related to the transportation system will be incorporated into the ODOT management plan.” (p. 73) What types of concerns are these? How will these two documents and management plans mesh? What type of communication regarding these “concerns” exists between these two agencies? This section states that current ODOT pollution levels are below TMDL standards, however, this is a statewide standard. If ODOT NPDES discharge permit exceeds TMDL pollution levels in the Lower Sucker Creek, what type of action will be taken to bring ODOT back into compliance? Is there a plan in place for this? How long would ODOT have to reduce their pollution discharges?

Response: Refer to Comment 1.145 and response above.

1.147 Comments, NEDC: How will the restoration strategies made more sufficient? Restoration treatments #1, #2, #3 are all treatment plans that have long term benefits, without any immediate results. Despite the need to work towards long term health of the Creek, immediate solutions are equally necessary in order to achieve compliance sooner and to maintain fish populations.

Response: On-the-ground management activities will need to be modified in order to meet the goals of the Clean Water Act and achieve water quality standards in the Sucker Creek Watershed. This affects forest, agriculture, transportation, urban and rural residential land uses. The Department recognizes that change can be difficult and expects the TMDL and WQMP will function as a tool that provides a foundation for reasonable and logical approaches to this change. Appendix B further states: “Where implementation of the Implementation Plans or effectiveness of management techniques are found to be inadequate, DEQ expects management agencies to revise the components of their Implementation Plan to address these deficiencies”. Potential enforcement action is also discussed in this section.

1.148 Comments, NEDC: More specifically all the shade work which is suggested in order to decrease river temperature, from Reach 1 through Reach 19 will take an estimated 55 years to 100+ years for recovery. This are long term goals, granted there will most likely be benefits to the river before the trees/vegetation is fully matured 50 to 100 years from now, however, the benefits will doubtfully be significant within the next 1 – 5 years.

Response: The Department advocates for assurance of implementation and accountable measures of progress, but also recognizes that communities, citizens and agencies have not completed the planning and budgeting that is vital to effective implementation and monitoring. Benefits to the watershed will be incremental in nature and may be small in the beginning, this however does not justify inaction. All DMAs recognized in the TMDL are responsible for compliance with the TMDL.

1.149 Comment: NEDC: How will the agencies keep each other informed about progress? How will the DEQ monitor the implementation of the agency plans? How will the implementation of this WQMP be financed? The WQMP is silent on the issue of financing. The WQMP is very generous in including a wide variety of organizations and agencies in their plan and making them responsible for water quality management. However, they do not address the issue of funding.

1.150 Comments, NEDC: The DEQ simply assigns agencies different responsibilities, yet does not address funding issues. There needs to be a realistic consideration, that if an agency or organization cannot receive sufficient funding they cannot carry out the required program. DEQ cannot simply point the finger at someone else for water quality problems and then not take into consideration the realistic implementation restrictions.

Response 1.149 and 1.150: In the February 2000 Memorandum of Agreement between EPA and DEQ, DEQ indicated that a discussion of cost and funding is to be provided with all Implementation Plans. DEQ expects DMAs to develop this information as part of their detailed Implementation Plans. Identification of potential funding sources for planning and implementation are addressed in Appendix E: *Potential Sources of Project Funding*.

1.151 Comments, EPA: In 1999, the Upper Sucker WQMP identified sediment reduction actions for federal lands. This Lower Sucker TMDL and WQMP are intended to cover actions on the private forest lands in the upper watershed, yet there are no specific actions identified, only general reference to the FPA. Given the specifics of what we know about needed riparian shade and sediment control in this basin, are there efforts being undertaken to prioritize specific actions that will meet basin-specific targets? If not, there should be.

Response: There are no streams listed for sedimentation in the Sucker Creek watershed therefore sedimentation is not addressed through a TMDL. The MOU between DEQ and ODF specifies that the Oregon Forest Practices Act will constitute the WQMP for privately owned timber lands throughout the state. There are concerns that the FPA may not be sufficiently protective to meet TMDL requirements (including sediment and erosion control practices). Both ODF and DEQ have committed to conducting a Sufficiency Analysis to determine whether changes are needed in the FPA. The Sufficiency Analysis is well under way and is scheduled for peer review during March, 2002. Once the Sufficiency Analysis is completed, ODF will determine what changes to the FPA are necessary. The Oregon Board of Forestry has the authority to act on these recommendations and make changes to the FPA.

1.152 Comments, EPA: On agricultural lands, the Inland Rogue 1010 plan recommends good conservation practices which, if used, should be effective in reducing sediment loads from agricultural land. Is there any information on whether any actions will actually be taken?

Response: (From ODA): The conservation practices listed in the Inland Rogue AWQMP are generally taken from the NRCS FOTG and from various OSU Extension bulletins. They are listed as a help to landowners as they proactively address their own water quality issues. The administrative rules, OAR 603-095-1400 through 603-095-1440, are enforceable by the Oregon Department of Agriculture. These rules reflect the land conditions that need to be maintained and the suite of practices listed in the plan will help landowners achieve those land conditions. The Oregon Department of Agriculture designed the Ag Water Quality Program to be adaptive and mandates that Local Advisory Committees reconvene every two years to assess the suitability of the area rules to meet the agricultural portion of any listed water quality problems. ODA is satisfied with the current rule language which prohibits land and riparian conditions which are likely to yield excessive sediment to the waters of the state.

Experience in other areas (for example Grande Ronde, Tualatin) has shown that many actions are taken following plan implementation. Whether it is in response to outreach done by the local SWCD, to activity by the NRCS, to regulatory action by ODA, or to landowner desire to do the right thing, can not be determined. However, given existing resources ODA believes that the accomplishments are much more than what could be achieved under a totally practice-based regulatory program proposed by many, and perhaps less than what could be achieved if a more stable funding base was available for both the ODA and for the local SWCDs implementing this program.

1.153 Comments, EPA: ODOT has adopted good measures to control sediment and repair cut/fill slope failures. Josephine County has yet to offer up any actions that will help reduce erosion and storm runoff.

Response: It is DEQ's intention that upon approval of the TMDL, the Department will work as expeditiously as practicable with Josephine County to develop or revise management plans in order to meet

the load and waste allocations, within 1-2 years. The implementation plan will provide more detail on the management measures that the county will implement, schedules, interim milestones, and monitoring plans.

1.154 Comments, EPA: Another gap in the WQMP is a cogent approach to treating the basin as a single unit for purposes of tracking, monitoring, and adaptive management. Some pieces are on a good track, such as the tracking and monitoring being done by the Siskiyou National Forest, but there is very little else that appears to have been thought out in detail or funded. Nor is it clear who if anyone would be putting the pieces together to continually make sense of how the pieces interact in the functioning of the watershed as a whole.

Response: The Department advocates for assurance of implementation and accountable measures of progress for all DMAs recognized in the watershed (both upper and lower). It is through the reporting requirements that the Department will monitor both implementation and effectiveness of the identified management measures. As stated in Appendix B Adaptive Management: “Subject to available resources, on a five-year basis, DEQ intends to review the progress of the TMDLs and the WQMP.” The Department further states “Where implementation of the Implementation Plans or effectiveness of management techniques are found to be inadequate, DEQ expects management agencies to revise the components of their Implementation Plan to address these deficiencies.”

1.155 Comments, EPA: Pages 40 and 41: Table 1 indicates Bear Creek is listed for temperature from its mouth to its headwaters, but Map 3 doesn't indicate it as an area with high temperature. Is this a mistake?

Response: The reference to areas of high temperature has been corrected and incorporated into the final version of the TMDL/WQMP.

1.156 Comments, SREP: The greatest problem with the WQMP lies in its utter failure to provide any sort of plan for action. The WQMP essentially consists of a reiteration of the TMDL, additional information about the watershed which should have been included in the TMDL analysis, and, finally, vague and toothless recommendations with no real hope of implementation.

1.157 Comments, SREP: The "Proposed Management Measures" section of the WQMP (Pages 47 - 62) perhaps provide some useful suggestions, but do not fulfill the requirements for a Water Quality Management Plan. A legitimate WQMP would have contained 1) complete and thorough analysis of the areas covered, not just brief synopses of the information; 2) results of the additional studies done; and 3) concrete, tangible plans with schedules of implementation, summaries of the specific means to accomplish goals, and identification of anticipated outcomes and the individuals responsible for the plan's implementation.

Response: 1.156 and 1.157: The WQMP is not intended to provide a detailed description of all pollution prevention activities required throughout the watershed. Rather the WQMP is provided as a summary of existing Implementation Plans (ODOT, ODA, ODF, USFS, and BLM) and to provide guidance to Josephine County to assist in the development of an Implementation Plan. DEQ is committed to reviewing and revising this TMDL every five years. If a watershed or basin is found to not be making satisfactory progress toward meeting water quality standards, additional restoration measures can be required.

1.158 Comments, SREP: The "reasonable assurances" sections of the TMDL and WQMP are inadequate to demonstrate that implementation will be achieved. A more meaningful appraisal of how "reasonable" these "assurances" are would have been to discuss the track records of the DMA's in implementing and enforcing the laws and rules which are already in effect and which this TMDL/WQMP relies upon to achieve water quality. For example, how effective has ODF been in protecting water quality in the state? What does ODF's monitoring data show, and what has ODF done in response to monitoring data which shows that private land logging has adversely affected water quality? The same types of analysis should have been done for ODA, ODOT, BLM, and Josephine County.

Response: The DMAs each have their own monitoring and review processes that allow them to determine the effectiveness of their management actions. In addition DEQ is charged with the continued monitoring

of the watersheds with completed TMDLs to determine whether satisfactory progress is being made toward achieving water quality standards. This TMDL will be reviewed in five years and revised if necessary to ensure that water quality standards will be met.

1.159 Comments, SREP: Passing off implementation responsibility to Josephine County and various other state and federal agencies potentially strips the DEQ of its necessary authority to enforce water quality standards and to implement the WQMP itself. This conflict of interest shows itself most clearly in the short shrift given to the obvious impacts on water quality of agricultural and development activity within the Lower Sucker Creek Watershed.

Response: The implementation of TMDLs and the associated management plans is generally enforceable by DEQ, other state agencies, and local governments. However, it is envisioned that sufficient initiative exists to achieve water quality goals with minimal enforcement. Should the need for additional effort emerge, it is expected that the responsible agency will work with land managers to overcome impediments to progress through education and technical support. Enforcement may be necessary in instances of insufficient action towards progress. This enforcement could occur first through direct intervention from responsible management agencies (e.g. ODF, ODA, counties and cities), and secondarily through DEQ.

1.160 Comments, BLM: In the WQMP, Proposed Management Measures Section, the verbage “target stream shade” will be changed to “potential stream shade” for Reach information. These numbers are not targets in a regulatory sense. In the WQMP, Time-line for implementation, Table 8, Federal Agencies: the wording “Results Submittal” (will be changed to “implementation summary”) and simply means providing information regarding BLM implementation of recommendations, if any. The 2002 due date will be eliminated, and the 2005 due date will remain.

Response: The recommended changes have been incorporated into the final version of the TMDL/WQMP.

1.161 Comment: BLM: DEQ contractor will split out BLM land from private in the Proposed Management Measures, so BLM can review these recommendations. The contractor will also separate out the BLM land in 39S-7W-29 in the Shade Assessment (Appendix F); it is currently listed as Private land.

Response: The recommended changes have been incorporated into the final version of the TMDL/WQMP and in Appendix F.

1.162 Comment: BLM: BLM will have the opportunity to review the final document before it is published to ensure that BLM is in agreement about statements regarding BLM land.

Response: BLM will have the opportunity to review the final document during the public comment period and review DEQ responses prior to submission of the final document to EPA.

1.163 Comment: BLM: Page ii, Second paragraph under Water Quality Management Plan (WQMP) Summary: First sentence read “A restoration strategy has been proposed which focuses on meeting TMDL surrogate measures for temperature by 1. establishing and protecting riparian area vegetation.” Change to read 1. establishing, improving and maintaining riparian area vegetation.

Response: The recommended changes have been incorporated into the final version of the TMDL/WQMP

1.164 Comment: BLM: Page 36, Chapter 2, Introduction, Federal Lands section: References to the 1999 Sucker WQMP for upper portions of Sucker Creek is irrelevant since this is a stand alone document that covers a different land area.

Response: References to USFS should be kept even though the USFS is not addressed specifically in the Lower Sucker Creek TMDL/WQMP. The USFS is a recognized DMA whose management actions are key to meeting the water quality standards of the watershed as a whole.

1.165 Comments, BLM: Page 45, Chapter 2, Last paragraph before Section 5: The Medford District Resource Management Plan (RMP) was not amended by the Northwest Forest Plan (NWFP). The Medford District RMP was written after the NWFP and tiers to the NWFP.

Response: The recommended changes have been incorporated into the final version of the TMDL/WQMP

1.166 Comments, BLM: Page 69-70, Chapter 2, Section 7. DMA Specific Implementation Plans, Federal Lands: Replace with Attachment C.

Response: The recommended changes have been incorporated into the final version of the TMDL/WQMP

1.167 Comments, BLM: Page 73, Chapter 2, Time-Line for Implementation, second sentence: Should this be Table 8 instead of Table 10? If not, Table 10 is missing.

Response: It should be Table 8. Changes have been incorporated into the final version of the TMDL/WQMP

1.168 Comments, BLM: Page 81, Chapter 2, Temperature, Shade Component, Second paragraph, First sentence: Who is “the District”?

Response: The District refers to the USFS. Clarification has been made in the text.

1.169 Comments BLM: submittal of “7. DMA SPECIFIC IMPLEMENTATION PLANS Federal Lands-BLM”

Response: Section 7 has been incorporated into the final version of the TMDL/WQMP.

1.170 Comments RN-98: The DEQ should be required to provide written review and specific recommendation for all Forest Service activities that may affect water quality in Sucker Creek. These reviews would be made available to the public. For example, all timber sale environmental assessments would be reviewed during the 30 day comment period.

Response: A reporting requirement was established for the USFS in the 1999 Sucker/Grayback TMDL as stated in Chapter 4: “A biennial report outlining progress and tabulation restoration projects will be submitted to Oregon DEQ by the Illinois Valley Ranger District. Should monitoring reveal that interim goals are not on schedule, changes related to this Water Quality Management Plan will be made. These changes might include re-evaluation of assumptions, and/or new restorative treatments.” The current view of the Department is that this reporting is adequate.

WQMP Restoration Plan

1.171 Comments, RN-SPROJECT: Also, the model did not consider floods and their impact on restoration activities.

Response: It can be expected that natural disturbance (i.e. floods, fires, windstorms, insect outbreaks, and diseases) will periodically occur in the Sucker Creek Watershed and it is possible that effective shade could be impacted by these natural disturbances. However, such conditions are considered as natural processes and therefore would not be considered as an anthropogenic pollutant or a violation of the TMDL.

1.172 Comments, RN-SPROJECT: Mr. Nawa strongly objected to the proposal to lay back the stream banks and plant them with riparian trees; failure is likely and will result in stream widening; even if plantings are successful, this may encourage near-stream development. He suggested we analyze aerial photos from past decades to gain an historical perspective of the system. There is a need for immediate action to eliminate adverse land uses/development in proximity to the stream.

1.173 Comment: RN- Sproject: By failing to identify causes of channel widening the DQ erroneously proposes untested technology to address the effects of cumulative sediment effects (proposed management measures p. 47).

1.174 Comment: RN- Sproject: The proposed management measures are untested and likely to adversely affect existing Cho salmon habitat (i.e. spring brooks development). The management measures of streambank stabilization steep eroding banks are strategically flawed because it attempts to treat the

symptoms sediment deposition rather than the cause. Channel widening is due to a history of accelerated erosion upland areas (primarily USFS lands) and increase peak flows from massive clearcutting on USFS lands(see Frissell et. Al. 1997).

- 1.175 Comment: RN- Sproject: Streambank stabilization is technically flawed and environmentally risky because excavation of oversteepened banks is likely to result in accelerated bank erosion and even more channel widening if it fails. Similarly the placement of wood in the stream is strategically flawed because it does not address the causes for reduced wood in Sucker Creek. Sucker Creek would have no shortage of wood if human did not remove natural wood from the stream. The 97 flood put hug amounts of wood into the Sucker Creek but much of that wood, especially conifers, has been removed by commercial loggers and firewood gatherers. Placement of wood in the stream is technically flawed because the channel is unstable. Saw logs with no rootwad attached are particularly unstable and do not create high quality cover as do whole trees. Artificial wood is likely to become dislodged and accumulate in huge debris jams that could create a liability problem for the entity (Josephine County, IV Watershed Council) that placed the wood in the stream (see Frissell and Nawa 1992).

Response 1.172 to 1.175: The Sucker Creek WQMP Section 6 has been modified to state: “The proposed restoration strategy shown below is a suggested approach to meet the TMDL. It is not the only approach and should not be misinterpreted as the required approach under the TMDL. Any restoration strategy should be developed in consultation with local experts. Please contact DEQ, the IVSWCD, or Illinois Valley Watershed Council for more information.” The purpose of this section is not to set regulatory targets and define a strict restoration method. Rather the purpose is to provide some reach-based effective shade targets and narrative information and set realistic expectations for how long it will take to restore both the channel and the riparian vegetation along Lower Sucker Creek. It is strongly advised that a management agency be involved in designing or approving any active channel or vegetation restoration. It is expected that over years as the channel stabilizes and vegetation becomes established that channel form and function will return to those targets identified in the TMDL.

- 1.176 Comments, BLM: Page 47, Chapter 2, Second sentence of the first paragraph under Proposed Restoration Strategy for Lower Sucker Creek Lands. Sentence reads: “This has been caused by excessive sediment in the system and the lack of mature conifers in the riparian areas to provide streambank stability.” Replace “mature conifers” with “large vegetation with established root masses”.

Response: The recommended changes have been incorporated into the final version of the TMDL/WQMP

- 1.177 Comments, BLM: Page 48, Chapter 2, Under Proposed Restoration Strategy for Lower Sucker Creek Lands Currently reads: “Restoration Treatment #1- Plant trees in existing riparian area”. Change to read: “Restoration Treatment #1- Plant trees and maintain stand health and vigor in existing riparian areas”.

Response: The recommended changes have been incorporated into the final version of the TMDL/WQMP

- 1.178 Comments, BLM: Page 50-62, Chapter 2: 1.) BLM sections should be split out into separate reaches from other ownership. Currently, BLM land is combined with private ownership. For instance in the shade assessment (Appendix F), BLM manages land in Reach 2; in the WQMP, this same land is in Reaches 2, 3, and part of 4. After the BLM land is split out, we can review the recommendations 2.) It would be helpful to have an overview map of these 20 reaches with clear depiction of ownership and legal description (Township, Range, and Section.) 3.) The air photos should have north arrows drawn in or be oriented with north at the top.

Response: 1.) Modifications have been made to the *Reach Definitions and Current Attributes* Table 2 in the WQMP as well as in the photos and map depictions of reach breaks to denote BLM lands. In the text BLM lands have been broken out and current and future effective shade, current and future Near Stream Disturbance Zones (NSDZ), and current and future wetted widths are shown (this applies to Reach 1 and Reach 12 in the text). Appendix F Shade and Channel Condition Assessment, Reaches 2 and 8 in Table 3 will provide for more detail..

- 2.) Ownership in the watershed is depicted on Map 2 Chapter 1 in the TMDL and in Appendix F Figure 1. It is advised that before any management activity is undertaken that ownership is confirmed.
- 3.) Air photos have “North” stated on them to orient the reader.

1.179 Comments, BLM: Page 51, Chapter 2, Reach 2, Recommended Restoration Strategy - PASSIVE: Define “active channel width”.

Response: As currently defined in the glossary: “Active Channel: The width of a river or stream channel between the highest banks on either side of a stream – also described as bankfull width.”

Heat Source and General Model Questions

1.180 Comment: RN-SPROJECT: the modeling ignored secondary stream channels which provide cold water refugia for salmon (water temperature in the side channels is 4-7 degrees colder than in the main stem); where side channels are absent, coho salmon are not present. Artificial side channels are unstable and do not provide adequate habitat. Existing side channels have been mapped by the USFS. The TMDL should emphasize protection of existing side channels.

Response: The commentor is correct, the model does not consider conditions in side-channel areas. The purpose of the modeling effort is to determine probable temperature reductions in the Sucker Creek mainstem, assuming stated future conditions in the watershed. The model attempts to describe a condition that is the warmest that will be encountered in the watershed, because it is calibrated to the worst possible conditions for temperature (hottest time of year, hottest time of day, and widest stream in the watershed). Other waterbodies, tributaries and side channels, will likely be cooler any other time of the year.

1.181 Comments, JN: Does the model include ground (water?) impacts on stream temperatures.

Response: Groundwater in-flows or out-flows were not put into the model for Sucker Creek. While the model can be used to describe these kinds of effects, and has been successfully used for ground water in other watersheds, no data on groundwater interactions were available for Sucker Creek.

1.182 Comments, JN: Mr. Nolan is concerned that the model does not consider historical data and the climate of the Illinois Valley.

Response: Historical water quality data (stream temperatures, vegetative quality, and channel morphology) are used in the sense that real field measurements, all collected during the same time-frame, are used to calibrate the model. The model does not consider historical climate data because it seeks to compare two single-day “snapshots” with each other. One “snapshot” is the current condition (calibrated to the seasonal highest temperature condition). The second “snapshot” assumes that the same weather conditions that occurred during the calibration data set are occurring again. In order to do this, the model uses hourly weather data on air temperature, humidity, and windspeed. The model for Sucker Creek assumes that in the future the amount of riparian shade available has changed and that the channel has narrowed to meet the targets – but the weather is the same on that day in the future. Thus the difference in stream temperatures occurring between today and the future (at vegetative and channel system potential) can be estimated. Climate data is not very useful for describing these types of processes to this kind of detail.

1.183 Comment: RN - Sproject: The Lower Sucker Creek Plan fails to explain and quantify relationships between flow, temperature, and beneficial uses such as salmonid rearing (see Frissell and Bayles 1996). For example, the temperature model does not include groundwater as a factor when it is obviously a huge factor for maintaining relatively cool water temperatures for coho salmon and trout. Groundwater modeling is necessary because NRCS has indicated that irrigators may be offered the option of groundwater pumping in exchange for leaving surface water in Sucker Creek. The Lower Sucker Creek temperature model would erroneously conclude that groundwater pumping would not affect temperature or flow.

Response: The model shows how management of riparian zones can affect stream temperature. The model calibrated very well to observed data without considering groundwater. Groundwater interactions, while undoubtedly present, do not seem to drive instream temperatures in Sucker Creek to the same extent that solar energy inputs do. Continual monitoring, to validate management approaches, is critical to improving stream temperatures in Sucker Creek. The use of long-term monitoring will assure that management measures undertaken in the Sucker Creek watershed are effective.

1.184 Comment: SREP: the use of surrogate measures does not eliminate the requirement for site-specific information. The TMDL focuses exclusively on the percent effective shade surrogate measure, but fails to analyze how this surrogate measure pertains specifically to the Lower Sucker Creek watershed. Instead the surrogate measures become the subject of a basic science lesson and the impetus for simplistic, outdated models. A TMDL must be a quantitative analysis of the standards applied to a waterbody.

Response: *System Potential* shade and channel are the surrogate measures in the Lower Sucker Creek TMDL and are based on site-specific information. See Appendix F Shade and Channel Condition Assessment for a more detailed reach by reach assessment. The Department feels that the primary sources of anthropogenic heat are accounted for in the temperature TMDL. The temperature modeling effort accounts for current condition hydrology, riparian, channel, and atmospheric parameters. Under the system potential modeling scenarios, all point sources were reduced to their calculated wasteload allocation (no effect) and non-point source solar loading was reduced to the *System Potential* condition. Predicted system potential temperatures reflect these considerations.

1.185 Comments, RN-98: The plan relies heavily on outdated models (Brown 1972) which were overly simplistic (i.e. stream shade is the only variable). No empirical data is provided which shows how much temperature increase has actually occurred or whether any stream on the Siskiyou Forest is following modeled predictions. Neither Brown's model or the shadow model recognize the variable influence of groundwater, intergravel flow, springs, and beaver ponds on stream temperature and beneficial uses (Appendix H).

Response: Current modeling presented in the modeling appendix comes from “Heat Source”, a model developed at Oregon State University and the Department of Environmental Quality Science and Data Section. It was developed in the mid-1990’s and refined in the late 1990’s.

Using Heat Source to model system potential conditions is an attempt to understand what kinds of stream temperatures might have occurred in the past. It is true that this is not empirical data. Deciding if stream temperatures do follow modeled predictions is something only future monitoring can accomplish. To restate something from a previous response, the model is capable of dealing with a wide range of groundwater/spring flow effects, but the data set in existence for this modeling effort did not define groundwater characteristics for the watershed. Better descriptions of these processes would doubtlessly change the predictions for the future, but probably only to a relatively slight degree.

As this is written (early 2002), the biggest obstacle to reducing stream temperatures in Sucker Creek is the unnaturally large amount of solar energy entering the stream. Reducing current ambient solar flux is the predominant goal that should be kept in mind for any new or modified management measures. Increasing the interaction of groundwater within the system will also likely have beneficial effects upon stream temperature, but will be of less magnitude than increasing riparian vegetation. The modeled reach is below most occurrences of beaver ponds.

Appendices

1.186 Comments, BLM: Appendix C, Page 37, Figures 23: What do the 3 0's on the figure stand for?

Response: Zeros represent percent of the temperature range shown in the bar graph. They convey no new information and have been removed.

1.187 Comments, BLM: Appendix F, Page 3, Figure 1: This map shows the SW ¼ of the NW ¼ of 39S-7W-23 as being under BLM ownership. This is no longer the case. Ownership changed in 1995 through a land exchange. It is currently under private ownership.

Response: Map has been updated in collaboration with BLM.

1.188 Comments, BLM: Appendix F, Page 15, Table 3: Sucker Creek crosses BLM land in 39S-7W-29, currently these reaches of BLM land are included as private land instead of BLM land.

Response: Table has been updated to reflect this ownership – Reach 8 in Table 3.

1.189 Comments, BLM: The following comments for Appendix F, were also provided to the DEQ in May, 2000, but none were incorporated or addressed in the draft document. Appendix F, Tables 1, 2, and 3: Notes below the tables should reflect that the total numbers for each ownership category are “reach averaged”. This terminology is used in the glossary and would be fitting to describe the origins of this data.

Response: The term “average” where it appears in Appendix F has been clarified in the text as follows: average shade is averaged for the length of the stream analyzed. Average loading is averaged by the length of the stream analyzed, average shade is also left and right banks averaged together

1.190 Appendix F, Page 12, Last sentence before Table 2: Replace “if conditions remain the same” with “without disturbance”.

1.191 Appendix F, Page 14, First paragraph, Last sentence: A loss of shade due to a road isn’t a “permanent loss” particularly if system potential means without anthropogenic influences.

1.192 Appendix F, Page 15, Last sentence before Table 3: Replace “if conditions remain the same” with “without disturbance”.

1.193 Appendix F, Page 18, Third paragraph, First sentence: Table 4 states there is 80% potential shade on BLM, whereas this sentence states 75%.

1.194 Appendix F, Page 18, Third paragraph, Second sentence: Table 3 states that conifers compose 30% of the vegetation type on BLM land, whereas this sentence states 70%.

1.195 Appendix F, Page 19-20: Since there are Rosgen F streams in the analysis area, a description of Type “F” streams would be appropriate.

1.196 Appendix F, Page 20, Last paragraph, Sentence beginning “A healthy main stem would be...” should read “A healthy main steam of Sucker Creek would be...”

Response 1.190 to 1.196: The recommended changes have been incorporated into the final version of the TMDL/WQMP.