

September 18, 1998

Roger Wood  
Oregon Department of  
Environmental Quality  
811 S.W. Sixth Ave.  
Portland, OR 97204

Re: South Steens Water Quality Management Plan, dated June 22, 1998, and  
Total Maximum Daily Load, Public Notice Dated: July 10, 1998

Dear Roger:

The following comments are provided by Northwest Environmental Advocates, and on behalf of Oregon Trout and the Northwest Environmental Defense Center (NEDC), regarding the draft South Steens Water Quality Management Plan (WQMP) and Total Maximum Daily Load (TMDL). Water Quality Management Plan for South Fork Donner und Blitzen River, Home Creek, Skull Creek, Threemile Creek, June 22, 1998, Bureau of Land Management presumed author. As the first of presumably many such TMDLs, the South Steens TMDL represents an important starting point for the Oregon TMDL program. In addition, as one of the first TMDLs done across the country utilizing surrogate measures in lieu of pollutant loads, this TMDL represents a potential template for similar TMDLs. For these reasons, and because of the need to restore environmental quality in the South Steens area, this TMDL, with its accompanying WQMP, should contain a nearly flawless series of analytical steps from problem statement to implementation plan, between which no gaps can be found. Unfortunately, it does not.

We believe that the South Steens TMDL moves the notion of using surrogate measures several significant steps forward. However, while we generally support the use of surrogate measures in the development of TMDLs as often more useful than mere loads to control non-point sources of pollution, we have grave concerns about the limitations of this approach, as detailed below. In short, there is very little in these documents to differentiate this TMDL for the South Steens from any other TMDL prepared for any other waterbody negatively impacted by excessive grazing. Put another way, this TMDL is largely a statement of how water quality standards can be turned into surrogate measures, stopping short of explaining how surrogate measures can be used to address the problems of a particular waterbody. This, despite its intent: "quantified end-points that will lead to attainment." TMDL at 1-4. As such, DEQ appears to suggest that merely restating the standards -- or goals of the TMDL -- is sufficient to constitute a TMDL, which it patently is not.

We have many grave concerns regarding this TMDL and WQMP. One, however, is overriding: every statement in a document that purports to meet the requirements of such an important federal law should be entirely truthful.

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## **I. INTERPRETATION AND APPLICATION OF WATER QUALITY STANDARDS**

The analytical work of a TMDL should begin with a thorough evaluation of which water quality standards apply to the listed waterbodies and/or the watershed addressed, as well as how they apply. Conducting this exercise ensures that the TMDL will be successful in rectifying the identified problems including those that are interrelated, explains to the lay person what those problems are, and ensures that the requirements of the law will be fulfilled.

### **A. The Proposed TMDL Fails to Recognize that Water Quality Standards are Comprised of Numeric and Narrative Criteria, Beneficial Use Support, and an Antidegradation Policy**

The development of a TMDL is the appropriate time for a definitive assessment of a waterbody's impairment to be conducted, to ensure that all parameters for which the waterbody is impaired are identified -- or at least those that have similar impacts, or additive or synergistic effects so that they may be analyzed concurrently -- and that all components of water quality standards have been applied. The draft South Steens TMDL fails to recognize that the legal definition of a water quality standard includes numeric and narrative criteria, beneficial use support, and an antidegradation policy. While the South Steens TMDL does address excess sediment through use of a narrative criterion, the document makes no mention of the requirement to support beneficial uses or apply narrative criteria, in addition to the application of numeric criteria, as 'gap fillers.' Such gap fillers do not exist as a legal fiction; they exist in order to be applied and there is no better time for applying them than the development of a quantitative plan to attain the water quality standards, namely a TMDL. This omitted step is critical in order for this draft TMDL to evaluate what it means to meet water quality standards in the South Steens, primarily but not exclusively because of the presence of two species -- the Catlow redband trout and the Catlow tui chub. These species are referred to as "key resource[s]" in the "TMDL at a Glance" but are thereafter conspicuously absent from the discussion and analysis. TMDL at 1-1. The trout and the chub are Species of Concern under the federal Endangered Species Act (ESA), Bureau of Land Management (BLM) Sensitive species, and Oregon Sensitive species. Catlow Redband Trout and Catlow Tui Chub Conservation Agreement and Strategy (CCA) at 4. While it is apparent that the Department failed to use this readily available information, concerning past and current distribution of these depleted and sensitive species, in the preparation of its 1994/96 and 1998 303(d)(1) lists, that oversight should not translate into a failure to use the information in the development of the TMDL itself. CCA at 4-12. Unfortunately, it did.

In order to apply the narrative criteria and beneficial use support components of water quality standards, the Department must identify all species that may have water quality requirements that are more protective than the existing numeric criterion. Thus, for temperature, the TMDL must establish whether Oregon's 64° F numeric criterion is adequately protective of the identified sensitive species, including the Malheur mottled sculpin, which the WQMP notes is, along with the trout, less temperature tolerant than the chub. WQMP at 2. The draft TMDL makes no reference to this issue. Moreover, the TMDL must also take into consideration the status of the

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species. The development of each numeric criterion is built upon assumptions of acceptable risk regarding the magnitude of concentrations, duration of the exceedances, and the frequency with which exceedances occur to allow for recovery to the aquatic communities. These apply to normal populations of aquatic species. If, as here, the waterbody population of the species, indeed the very species itself, is at risk of extinction, risks that would otherwise be considered acceptable upon which to develop numeric criteria for normal populations are no longer. In determining the applicable site-specific criteria to protect these uses, the Department must take into account the depleted state of the species. The criteria cannot be designed merely to protect these species that are on the brink of extinction but rather must be designed to restore their populations. In other words, the risks to the species must be decreased to a greater extent in order to meet the goals of the standards and the Clean Water Act. Therefore, in writing the TMDL, the Department must interpret and apply its narrative criteria and requirement to support beneficial uses, to fill these gaps, not ignore them. To do any less than this is to reject the legal fact that beneficial use support is a stand-alone component of water quality standards the attainment of which is the required goal of the TMDL. 40 CFR 130.7(c)(1).

The trout and chub are generally designated uses as aquatic life, but more importantly, are existing uses under the definition of 40 CFR 131.3(e). In order to properly apply the requirement to protect existing uses, the Department must establish either the geographic areas where these more sensitive species reside within the South Steens or apply site-specific criteria to the entire area to which the TMDL applies. It is appropriate for the Department to rely upon data concerning the geographic range of the trout and chub as of November, 1975 as a starting point to define existing uses. Some information exists on the historical geographic location of these species. CCA at 4-7. However, that information is only a starting point; it is not, according to other documents, sufficient for protection of these uses. In fact, the goal of the Conservation Agreement -- a document prepared to avoid bringing these species to the brink of extinction thereby requiring their listing as federally threatened or endangered -- is to have the species occupy "at least 80 percent of its historic range within each of its historic stream drainages." CCA at 15. This historic range is no doubt a larger area than the uses occupied in 1975, however it is a range necessary for perpetuation of the existing use which cannot legally be removed. Stated differently, the Department cannot limit its definition of existing use to its range existing in 1975, but must determine an appropriate geographic range sufficient to protect the use as a whole.

This approach is very similar to that adopted by the Policy Advisory Committee (PAC) on the

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Oregon 1992-94 Triennial Review of Water Quality Standards for the protection of bull trout in the development of Oregon's temperature standard. There, while it was agreed that the bull trout criterion would not apply to the entire historic range of the species, it was also agreed that the existing range was too small. The result was agreement that biologists should determine a range that would allow intermingling of currently isolated populations as necessary for preservation of the species, regardless of whether they were present there in 1975. Likewise, the TMDL (as well as the 303(d)(1) listing process -- as the point in the process when standards are applied to existing data and information) must define existing use according to what is necessary for the species, an existing use in 1975, not merely the geographic range as of 1975.

In addition to defining the geographic range of the sensitive species, the application of narrative criteria and beneficial use support also requires that the Department identify and protect the most sensitive life cycle stages of the trout, chub and any other species more sensitive than those used to determine the numeric criteria. (The lack of information in the TMDL and WQMP regarding other sensitive species does not mean that they do not exist. In fact, the Conservation Agreement hints that perhaps others do exist in this basin. CCA at 23.) The TMDL, however, makes no reference to the temperature of waterbodies during the time of spawning of these sensitive species, despite information that spawning takes place during months not addressed in the TMDL, namely March, April, and May. CCA at 4. Likewise, the TMDL does not address the Catlow tui chub's affinity for low velocity habitats. CCA at 5. It would be pointless to lower the temperature of the water if this sensitive species concurrently required significant changes in its habitat. By failing to address the needs of species more sensitive than the salmonid for which the numeric criteria were developed, the TMDL on its face fails to ensure that it will lead to attainment of standards.

#### **B. In Failing to Consider Pollution in lieu of Pollutants, the TMDL is Flawed**

Oregon water quality standards include various narrative criteria related to pollution, rather than just being limited to control of pollutants. Beneficial uses requiring support in the standards likewise require physical and biological quality, not just chemical parameters in the ambient water column. Not coincidentally, this trio of needs corresponds to the goal of the Clean Water Act: "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." CWA 101(a). While NWEA is aware that that portion of the statute that requires the development of TMDLs makes reference to "pollutants" not "pollution," the intent of a TMDL using surrogate measures is presumably to avoid a narrow approach utilizing pollutant loadings in lieu of a more holistic and useful analysis that will address all the interrelated parameters for which the waterbody is impaired. CWA 303(d)(1). The South Steens TMDL correctly focuses on protection of the beneficial uses, by addressing "fisheries concerns." TMDL at 1-2. It also cites to the preamble of the 1985 regulations that "other appropriate measures" could be used where "appropriate to the specific pollutant and **environmental condition.**" TMDL at 5-1 (emphasis added). Oddly, however, the TMDL states that these fisheries concerns result from "impairments due to water temperature increases" without reference to any other impaired conditions. Id. In the South Steens, clearly these uses are impaired due to more than excessive

temperature and sediment loadings, yet these are the sole parameters addressed by the TMDL in the name of restricting itself to "pollutants." *Id.* This is nonsensical considering the fact that the TMDL, the WQMP, and other underlying documents, recognize the interrelationship between these loadings and other forms of pollution, such as flow and habitat impairment, and other chemical parameters. Amazingly, the TMDL does not include the fundamental problem with loss of meander as a physical state that, if not remedied, will foil all other attempts to restore these streams. Moreover, the TMDL specifically attempts to address at least some of those relationships through the use of surrogate measures. The documents, however, stop short of evaluating all of the relevant parameters, although the statute does not explicitly restrict an agency from developing a TMDL that addresses more than pollutants. It would certainly be consistent with the goals of the Act, the intent of section 303, and the approach chosen by the Department for the South Steens TMDL, to make a thorough analysis, rather than ignoring issues critical to the attainment of standards. Stated another way, to attempt to restore the temperature of the stream without ensuring that there is sufficient flow, lack of physical obstructions, etc., is a patent waste of time and guarantees failure to meet the goal of supporting the beneficial uses.

**C. The TMDL Fails to Consider Deficiencies in Other Parameters that Have an Additive or Synergistic Effect Combined with the Identified Impairment and Therefore Fails to Be Conservative and Adequately Protect Beneficial Uses**

As the WQMP points out, the waterbodies addressed by this TMDL suffer from pollutant impairments other than temperature and excess sediment, including low dissolved oxygen and algal growth. WQMP at 3. Failure to account for the additive and/or synergistic effects of these pollutants and other identified stressors or "pollution" (e.g., "instream habitat availability, streambank erosion, low summer flows"), make the analysis in the TMDL significantly less conservative than the document acknowledges. *Id.* For example, the WQMP specifically notes that "[d]issolved oxygen assessments indicate that levels are within the range recommended for redband trout; however, they are low relative to the needs of the fish at the higher water temperatures." WQMP at 4. Fish, suffering from negative effects of thermal pollution are even less able to handle low levels of dissolved oxygen, regardless of whether these low levels are violative of numeric criteria. Not only does this lack of conservatism weigh against a finding that this TMDL will lead to attainment of standards but it also undercuts the proposed margin of safety in the draft TMDL which proposes to take credit for various conservative assumptions. Those assumptions are simply of less value when they are taken together with the failure to include analysis of related parameters that have similar negative impacts on the beneficial uses. The development of the TMDL is the time to have a thorough and definitive assessment of all standards that are currently or in imminent likelihood of violation. For a TMDL, such as this, which purports to address the issues of the watershed as a whole, to overlook other related parameters is a serious error.

**II. THE GEOGRAPHIC SCOPE OF THE TMDL IS FLAWED**

Nowhere in the TMDL or WQMP is the geographic scope of the TMDL clearly laid out. An

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easy-to-read map should be a prerequisite for these documents as they go out for public comment. An explanation of the choice of watershed boundaries should also be a part of the TMDL.

**A. Threemile Creek Should Be Included in this TMDL**

Threemile Creek should have been listed as water quality limited for temperature. The numeric criterion (17.8° C) was met or exceeded in June and July 1990, July 1991, and August 1992. CCA Appendix I at 5. It was not exceeded on one day in July 1993 when air temperatures were substantially lower than years in which the water temperature exceeded the criterion. No data for July or August exist for 1994 and 1995, and the recorder failed to work during 1996. CCA at 12. In other words, where data exist, for the years 1990 to 1996, on only one day in one year did temperatures not exceed the numeric criterion in July or August. In 1997, the June reading was 22.29° C. WQMP at 20. The absence of data in the subsequent years does not prove that the criterion did not continue to be exceeded. To the extent that Threemile Creek is considered not to be in violation of standards because it is, in places, intermittent, its intermittent nature does not alter the fact that it is a waterbody of the state, subject to water quality standards.

In fact, the problems of Threemile Creek mirror the anthropogenically-induced problems the TMDL claims to address, namely "fisheries concerns." TMDL at 1-1. The Conservation Agreement specifically noted "[c]hannelization, livestock grazing practices, and dewatering for irrigation" as causes of the lower reaches of Threemile Creek being currently unsuitable for fish habitat. CCA at 8. Specifically, "low flows and diversions" cause fish difficulty in returning to the reservoir. *Id.* The Conservation Agreement includes other evidence of beneficial use impairment: "Because of the small populations and limited distribution, angling pressure in the streams and at Threemile Reservoir pose a potential threat to the species. Threemile Creek was closed to angling through emergency regulations in 1995 and continues to be closed based on the 1996 regulations." CCA at 12. If this South Steens TMDL fails to address the impairments of Threemile Creek, this waterbody will have to be included in future schedules for TMDL development. To the extent that the Department is unable to definitively conclude that criteria in Threemile Creek are violated, and beneficial uses not fully supported -- although this seems it would be an extraordinary finding -- the Department can and should include the Creek in the TMDL on the basis of the antidegradation policy that is a component of Oregon water quality standards. While the antidegradation policy is often perceived of as only a program to prevent degradation of waters applied on a site-specific basis, the policy is also clearly part of the legal definition of a water quality standard and thus is capable of being violated. A waterbody in imminent threat of impairment such as Threemile Creek would thus qualify as one that has violated standards.

**B. The TMDL Fails to Include Protection of Critical Wetlands in the South Steens Area**

Wetlands in the South Steens area that are addressed by the TMDL have been identified in the

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underlying documents as important, or even critical, to the protection of the beneficial uses. The Conservation Agreement states that:

Wetlands, such as at Skull Creek Meadows or Smith Flat, provide for energy diffusion during runoff events, lower velocity refugia for fish during runoff events, hydrologic connection among tributaries within the basins, sediment deposition, potential holding habitat for fish, high production of invertebrates, and saturation for later release for improved late season flows in the streams. These areas also provide habitats for several of the other Special Status species in the basins.

CCA at 23. The WQMP establishes that the Skull Creek Meadows wetland is impaired: "Portions of the private access road from the public highway to Skull Creek Reservoir were degraded to a level of causing loss and erosion of the lower end of Skull Creek Meadows." WQMP at 31. As waters of the state that are impaired, according to the analysis in the Conservation Agreement, these wetlands should have been listed on the 303(d)(1) list, irrespective of the Department's failure to timely promulgate wetland-specific water quality standards in its triennial review. Regardless of the Department's failure to include these wetlands on the list, the TMDL, which purports to address impaired waterbodies in the South Steens area, must include these wetlands. The Department cannot choose to pursue a strategy of lumping waterbodies in watersheds together as a means of developing TMDLs for administrative efficiency and simultaneously omit waters suffering from the same forms of pollution in the very same TMDL. To the extent that it does so, it should clearly identify the waters to which the TMDL does apply, and clearly identify the waters for which TMDLs are reserved for future development, in this instance the wetlands.

### **III. THE USE OF SITE SPECIFIC DATA IN A QUANTITATIVE ANALYSIS IS A NECESSARY PREREQUISITE TO MAKING A DETERMINATION THAT THIS TMDL WILL LEAD TO ATTAINMENT OF STANDARDS**

As explained below, one of NWEA's 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 there is impairment caused by excessive grazing. As such, the TMDL is not a TMDL but rather 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.

#### **A. Site-Specific Information is a Requirement of any TMDL, Regardless of the Use of Surrogate Measures**

The quantitative analysis in the South Steens TMDL is an explanation of how some -- but not all,

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as discussed above -- of the applicable criteria contained in Oregon water quality standards can be translated into surrogate measures that provide greater utility than loads to devising appropriate pollution control measures for non-point sources. The TMDL concludes that a goal of 80 percent bank stability and 20 percent view to sky are the equivalent of attaining the temperature criterion. The TMDL fails, however, to take the next step, to analyze how these surrogate measures pertain to the status of the impairment in the South Steens waterbodies. Instead, the surrogate measures -- namely the water quality standards -- are repeated over and over again. Nowhere in the statute or regulations is a TMDL defined as merely being a restatement of water quality standards. Instead, a TMDL is a quantitative analysis of the standards as applied to a particular waterbody. In contrast, neither the South Steens TMDL nor the South Steens WQMP go beyond reiterating the rationale behind the surrogate measures and noting various goals and objectives. Thus, neither constitutes a complete TMDL, nor do they together.

The TMDL states that there is insufficient site-specific data to apply in its analysis. TMDL at 2-8. However, the Conservation Agreement identifies existing riparian habitat condition assessments for BLM land. CCA at 9-12. And, the Agreement identifies as a presumably imminent future study, that should be underway or completed by now, the "[r]eassessment of bank stability based on linear feet or photopoints to obtain a more site-specific baseline monitoring of the active erosion that may be occurring." CCA at 16. The WQMP appears to suggest that substantial monitoring has been taking place for several years:

Monitoring for effectiveness of the plan began in 1995 under the SSAMP monitoring plan. The South Fork Donner und Blitzen is monitored annually. Water temperature monitoring for Home Creek and Skull Creek was established in the monitoring plan for every 3 years; however, because of the 303(d) listing, monitoring is actually occurring annually. Other related monitoring, such as riparian condition and aquatic habitat, also began in 1995 under the SSAMP monitoring plan.

WQMP at 61. Despite evidence that there is already some site-specific data, the TMDL only includes four charts pertaining to existing conditions, and absolutely no analysis that would tie the existing conditions shown to the question of whether the TMDL, if implemented, will lead to attainment. TMDL, Figures 2-6, 2-8, 4-1, 4-2. Instead, the TMDL states that "information **will be collected** by BLM to characterize channel classes in the South Steens area." TMDL at 4-2 (emphasis added).

The TMDL also concludes that it would be "resource intensive" and of "limited value" to conduct a mile-by-mile analysis of the effect of restoring proper functioning conditions to the streams in the South Steens on water temperatures. TMDL at 2-8. We agree that it is not necessary for a TMDL using surrogate measures that are demonstrated to be sufficient to attain water quality standards to also prove their veracity for each stream mile to which they will be applied, just as it is not mandatory that a TMDL demonstrate the veracity of water quality



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standards for each stream mile. However, that is a far different issue than applying the surrogate measures to the actual streams in the TMDL. The TMDL states that the results of the first analysis would be of limited value, "particularly in light of variable conditions described in the WQMP (e.g., topography, elevation, meteorology, base flows). TMDL at 2-8. That justification is exactly why the TMDL should apply the surrogate measures to the data for the actual streams: the streams have variable conditions. Without an analysis of the relationship between the surrogate measures and the variable conditions in the actual streams, how can the TMDL conclude that implementation of the surrogates will lead to attainment of water quality standards. Moreover, if the data don't exist now, as the TMDL states, why should anyone believe that they will exist in the future, data that are presumably a necessary prerequisite to comparing the status of the waterbodies against the surrogate measures to determine appropriate management strategies, compliance with TMDL allocations, and ultimately attainment of standards?

**B. Information and Data on the Existing Physical, Chemical and Biological Conditions of the Study Area and an Analysis of the Deviation from Target Are Imperative Components of the TMDL**

The South Steens TMDL contains no information about background conditions. For example, while other documents note that certain parts of the area have been given a rest period, there is no analysis of what effect that has had. Neither does the TMDL explain what the status of the individual waterbodies and the stream banks are or analyze the trends. There is no explanation of what resiliency the waterbodies have to withstand high energy flood events, and what type of flood event they currently can withstand or what they would be able to withstand if actions taken pursuant to the TMDL or WQMP are taken. There is no reference to the waterbodies' status under the National Marine Fisheries (NMFS) "proper functioning condition" approach, as opposed to that of the BLM. Without a foundation of understanding the current conditions, the TMDL cannot possibly elucidate what is necessary to remedy those impairments.

This TMDL contains no analysis of how the current conditions impact the determination of what pollution control actions are needed. One specific example is that the likelihood of attainment of standards should be based upon how resilient the area is. The more resilient it is made through the TMDL at the outset, the greater the likelihood of success of any subsequent managed grazing, yet there is no mention of resilience or energy diffusion in the TMDL. One would expect that since recovery is not linear but highly dependent upon restoring the sinuosity of the impaired stream, that the TMDL would analyze the importance of establishing this key foundation to recovery, perhaps even make energy diffusion a surrogate measure. However, the TMDL is silent on this issue. Put another way, there is nothing in the TMDL that will direct the level of effort necessary to attain standards; it is merely an academic recital of the relationships between riparian habitat conditions and thermal pollution.

Following the lead provided by EPA's Federal Advisory Committee (FACA) on TMDLs, the South Steens TMDL sets out some limited information on the "deviation from target" with regard to Home Creek. TMDL at 2-11. What is missing, however, is an analysis of the degree

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to which standards are violated in terms of criteria exceedances, a more exhaustive statement of the status of the conditions for which surrogate measures will be proposed (e.g. the entire geographic scope of the TMDL), an analysis of what that degree of deviation means with regard to control measures that will be required, and the status of beneficial uses. This deviation, or the degree of change needed between current conditions and ideal (attainment) conditions, is very important when surrogates measures are being used to ensure that the proposed actions pursuant to the TMDL will result in attainment. In other words, the establishment of appropriate practices necessary to obtain attainment of standards will vary depending on the degree of deviation from the target. Minor changes in management practices could be justified on the basis of a finding of a minor deviation while more significant changes, including long rest periods, are clearly called for where the deviation is great. The TMDL must explain this deviation, both in terms of standards and surrogate measures, as well as to identify the specific hazard areas if it is to succeed in attaining standards. Alternatively if the TMDL were only to address loadings, the pollution control steps necessary could theoretically be derived solely from the total loading capacity. (This is true for point sources but clearly more difficult for nonpoint sources, the reason why we support the surrogate measures approach.) This is not the case with the proposed South Steens TMDL.

Neither the TMDL nor the WQMP attempt to take the information on the degree of deviation from the surrogate measure of actively eroding stream bank on Home Creek presented in the TMDL to determine what allocations, time frames for meeting allocations, and management measures are appropriate to meet targets. Figure 2-6, TMDL at 2-10. Surely, such pollution control measures as rest, juniper control, etc. will vary between river mile 10, where 100 percent of the stream bank is actively eroding, and river mile 26 where the amount is zero. Alternatively, if the mile-by-mile calculations are too resource intensive, the only other appropriate approach is to treat all stream miles as suffering from 100 percent actively eroding banks. If this is the case, the TMDL must set forth more analysis than an interpretation of water quality standards as surrogate measures and unsubstantiated statements that downward trends "will be apparent" by certain dates. Table 2-1, TMDL at 2-9.

The WQMP illustrates the fact that little will be done to change the status quo. Table 8 in Appendix 3, WQMP at 74. Of the four years laid out for the nine pastures, between three and four pastures will be given one year each of rest in the four years, equivalent to under eight percent of the pasture-years. WQMP at 74. If the analysis of the deviation from target were done properly, a reader of the TMDL would be able to discern whether this level of rest, as well as the other planned grazing treatments (e.g., deferment, early grazing, winter) will be sufficient to allow these waterbodies to attain water quality standards in the time frames established by the TMDL.

Adaptive management requires an understanding of the baseline conditions, in order to compare them against the surrogate measures to measure improvements. The TMDL and WQMP indicate that there is insufficient baseline information, yet count on adaptive management to make the necessary changes in pollution controls on a yearly basis to continue obtaining incremental improvements. Neither the TMDL nor the WQMP explain how this is possible without baseline

**C. Information on Past Attempts to Correct Impaired Conditions Should Not be Omitted**

While the South Steens TMDL references other processes underway to rectify the problems of the South Steens waterbodies, such as the Conservation Agreement and grazing allotments, the TMDL fails to provide any insight into what is lacking in the analysis associated with those processes, if anything, and in the current implementation of the agreements. This type of information is necessary to ensure that the TMDL does not merely rehash old plans with a new layer of analysis, if the old plans are failing to work due to faulty design or follow-through. If the old plans are not working, or planned studies are not materializing, then the draft TMDL will need to require more to provide assurance that it is likely to be implemented. Such information will also enlighten both the reader and EPA as to how the adaptive management aspect of this TMDL is likely to unfold, an area where both the analysis and the information comes to a screeching stop in these documents.

The Conservation Agreement notes that the South Steens AMP has a goal of improved riparian habitat, including an "improved trend on 5.6 miles of Home Creek and Threemile Creek within 3 years of management plan implementation." Similarly, while having a "slower recovery," Skull Creek would have "an upward trend measurable within 3 years after implementation of the plan." CCA at 17. The Conservation Agreement includes a goal to implement its "significant actions" within in the first five of the total ten years covered by the Agreement. CCA at 6. The WQMP and TMDLs are silent with regard to the success or failure of this goal, and the on-the-ground impacts of whatever implementation has occurred. The SSAMP was completed in 1995 and presumably has been implemented since that time, however the TMDL makes no mention of whether any of the predicted measurable trends have been detected or whether monitoring has even taken place. In fact, it appears likely that the monitoring of riparian habitat pursuant to the SSAMP has not occurred, because there is no mention of these data in the TMDL or the WQMP. Regardless, the facts regarding this implementation or lack thereof is material to the analysis of the TMDL and should be presented.

**IV. WATER QUALITY MANAGEMENT PLANS AND TOTAL MAXIMUM DAILY LOADS ARE DIFFERENT**

Without a doubt, the preparation of TMDLs and WQMPs is a difficult task at this juncture. While major program improvements are imminent, as a result of EPA's Federal Advisory Committee Act (FACA) process, those changes in regulations and guidance have not been completed. Meanwhile, the State is frantically searching for ways to produce cookie cutter TMDLs that make no reference to on-the-ground environmental conditions, in the mistaken belief that by avoiding the primary intent of the law the State can meet its quota requirements. Notwithstanding these dilemmas, the Department should meet both the regulatory requirements

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of the law and the dictates of common sense, thereby ensuring that the TMDL process is a useful approach to attaining standards, rather than a bureaucratic paper-pushing exercise.

**A. The Department Errs in Failing to Recognize the Fundamental Difference Between Water Quality Management Plans (WQMPs) and TMDLs**

The draft South Steens TMDL is a restatement of the WQMP: "[the TMDL] summarizes the WQMP". Letter to South Steens Reviewer from Roger Wood, DEQ, dated July 10, 1998. The WQMP is "based on previously developed plans, namely the BLM South Steens Allotment Management Plan and Environmental Assessment' (SSAMP) and the multipartnered 'Catlow Redband Trout and Catlow Tui Chub Conservation Agreement and Strategy' (CCA)." WQMP at 1. The SSAMP has as "one of its goals the maintenance or improvement of fisheries and aquatic habitat through changes in riparian vegetation within the allotment to enhance water temperatures, reduce peak flows, increase sustained flows, and reduce the amount of fine sediments in the substrates of the streams." CCA at 17. The SSAMP was completed in 1995 and was intended to show measurable improvements in three years. *Id.* Not only is there is no evidence presented that the SSAMP or the CCA have met their interim or final goals, but there is no evidence that either the SSAMP or the CCA ever had as their goals the attainment of Oregon water quality standards. As the Dear Reviewer letter notes, public comment is not being accepted on either the SSAMP or the CCA, although the provisions of these documents are the sole basis for the WQMP and thence the TMDL, making a mockery of the public comment process.

A TMDL is a TMDL, regardless of the Department's internal guidance that suggests that a WQMP can be a TMDL. Not only does this guidance incorrectly suggest that a TMDL can be other than a quantitative analysis of what is necessary to meet water quality standards but it also suggests that a WQMP is not an implementation plan for a TMDL. Both the analysis and the implementation plan are irreplaceable functions; to confuse either is detrimental to the 303(d) and (e) programs. While existing documents, prepared for other statutory obligations, can certainly be the starting point for a TMDL, the fundamental definition of a TMDL must not be muddled. In the case of the South Steens, the draft TMDL appears to be an analytical overlay to a series of plans, rather than an analysis that will drive the appropriate level of planning. This backwards approach is a flawed process. In addition to failing to direct appropriate levels of pollution controls, the draft TMDL and WQMP represent an extensive amount of paperwork with relatively little purpose. The Clean Water Act analysis should be an independent analysis not a justification of the outcomes of other programs, sketchy as those outcomes of the SSAMP and CCA are. The repeated reiteration of goals and objectives from numerous other reports serves no useful purpose because the TMDL/WQMP neither justifies the supposed action items in those programs nor ensures that sufficient actions are taken.

**B. The WQMP Should Serve as the Implementation Plan for the TMDL, Consisting of Action Items, not Restatements of Underlying Analysis or Goals and Objectives of Other Programs**

Further proof that this TMDL is not intended to set out or direct any necessary control actions is the statement that "[a]chievement of natural conditions would be through the implementation of necessary management to meet the 'Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the States of Oregon and Washington' and implementation of specific management set forth in the SSAMP and the CCA." WQMP at 33. In other words, the WQMP is planning to use so-called existing Best Management Practices (BMPs) regardless of whether those BMPs are sufficient to attain water quality standards. In the absence of a TMDL, an existing WQMP should establish that applicable BMPs be applied to a management area to maintain water quality standards. Where a TMDL is proposed, including a WQMP associated with a TMDL, applying the same BMPs that are considered generically acceptable for maintenance is not likely to be sufficient for significant restoration. A TMDL is not a paperwork exercise; where streams have been degraded sufficiently to warrant a TMDL, standard BMPs will not be sufficient to restore the impaired quality of the stream environment. If the Department has established that these generic BMPs are sufficient to restore water quality to standards, whether measured in surrogates or loads, the TMDL must demonstrate that fact. To do otherwise, i.e. to apply nothing more than already-applicable BMPs, is to make a mockery of the requirement to develop TMDLs that lead to attainment of standards. The TMDL is the appropriate document in which to tie an analysis of the deviation from standards, discussed above in these comments, to the pollution control measures needed, whether through existing BMPs and/or other measures.

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 South Steens process, originally intended to pawn off a WQMP as a TMDL, now consists of two separate documents, the attempt at a hybrid at the outset of the WQMP/TMDL's development has left its mark. The result is a WQMP which merely restates the goals and objectives, along with pertinent background information, of various other underlying documents and programs. Where the WQMP could and should elaborate clearly on what exactly must be done in order to meet the surrogate measures of Oregon's water quality standards, as theoretically explicated in the TMDL, it falls short by noting repeatedly that adaptive management techniques will be used, the definition of which in this context is highly suspect, as discussed below. In general the WQMP masquerades as an action plan but never goes beyond goals and objectives and vague statements concerning adaptive management.

### **C. The WQMP is the Implementation Plan for the TMDL**

The WQMP should establish more clearly what regulatory mechanisms will be used to ensure that appropriate control actions are taken. While the WQMP makes references to various BLM regulations, it is silent with regard to the presence or absence of regulatory authorities that may apply to private lands. This issue evidently is significant as the Conservation Agreement notes

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that a threat to be addressed includes the "[a]bsence of regulatory mechanisms adequate to prevent the decline of a species or degradation of its habitat." CCA at 25. The TMDL and/or the WQMP should establish the role of Senate Bill 1010 to ensure sufficient nonpoint source controls to meet the requirements of the TMDL as well as spell out the details that are necessary. The same is true for other federal, state, and local legal authorities that will or can be used, such as Section 313 of the Clean Water Act, and state laws on water appropriation, land management, etc..

While the WQMP states that "the BLM is required to comply with the Clean Water Act and meet the Oregon standards for water quality, as identified in the "Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the States of Oregon and Washington," the document does not explain how those management standards will be sufficient actions to attain the TMDL. WQMP at 60. While, the WQMP quotes federal regulations as stating that, "[t]he authorized officer shall take appropriate action ... upon determining that existing grazing management practices or levels of grazing use on public lands are significant factors in failing to achieve the standards, " short of citing to its planned use of "adaptive management," the WQMP does not establish how "appropriate actions" will be determined or taken that will lead to attainment in a timely fashion, as opposed to an upward trend or, even more likely, a fluctuating trend at best.

As the TMDL repeats, mantra-like, the goals stated in the WQMP, likewise the WQMP repeats the goals of the SSAMP and CCA. Instead, the TMDL should present the analysis of why the goals are sufficient to meet water quality standards, and the WQMP should set out what actions will be taken in order to reach these specific goals. The approach taken, for example in Table 16 of the WQMP, of tying SSAMP and/or CCA management objectives through a matrix to SSAMP goals and CCA desired outcomes, is just an exercise in circular thinking, without advancing the analysis or the action plan one iota. WQMP at 40. Goals are tied to objectives which are tied to goals; the WQMP should establish what is necessary to be done on the ground to achieve both the goals and the objectives.

## **V. TMDL ANALYSIS AND ELEMENTS**

### **A. The Goal of the TMDL Must be Attainment**

The goal of any TMDL must be attainment. CWA 303(d)(1), 40 CFR 130.7(c)(1). There is nothing in the proposed TMDL or the WQMP that indicates that attainment is anything but a theoretical construct for the South Steens area. As discussed elsewhere, there is no definitive analysis that what will be required will be sufficient to restore the integrity of the aquatic environment sufficient to meet water quality standards. Instead, vague recitations regarding the use of adaptive management, the now limited potential of the area, and the use of pre-existing BMPs are supposed to demonstrate that this TMDL will lead to attainment. They do not.

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The WQMP should be a statement, not of repeated goals and objectives of other program documents, but of what the necessary steps are to get the waterbodies of the South Steens to those objectives and goals. Table after table in the WQMP, and the TMDL, merely repeat the desired conditions, the desired time frames, the desired goals and objectives, but never how they will be achieved. E.g., Table 16, WQMP at 40. Where the TMDL should establish the goals and allocations, the WQMP should establish the methodology of attaining those goals. In the case of the South Steens both documents simply mimic each other, and neither commits any party to taking the actions that are necessary to meet Clean Water Act requirements.

**1. To the Extent that the WQMP Contains Proposed Prescriptions, They are Nothing More than a Shell Game**

The entire allotment process described in the WQMP appears to be a big shell game, with the movement of cattle from one pasture to another in a vain attempt to temporarily and only moderately decrease grazing pressures without reducing animal units. This is evidenced by the following passage: "In 1997, the MNWR [Malheur National Wildlife Refuge] permitted RSR [Roaring Springs Ranch] to put 500 cattle on the MNWR to relieve pressures that were created when the South Steens Pasture of the South Steens Allotment was rested in order to comply with the court order..." CCA at 18. Likewise, the Conservation Agreement acknowledges that the pressure will continue:

Because the Blitzen Protection Fence will cause livestock distribution in the South Steens Pasture of the South Steens Allotment to shift to, and increase pressure on, Home Creek and Threemile Creek, additional fencing will be needed to enable livestock distribution that will allow continued and possibly accelerated progress in the recovery of the riparian areas in Home and Threemile Creeks. One such control structure is the proposed Lauserica Fence, which was analyzed in the EA for the BLM's South Steens AMP, Alternative II, but not part of the selected alternative. The Lauserica Fence would result in a split of the large South Steens Pasture into two smaller pastures (Steens Pasture and Home Creek Pasture). The Home Creek Pasture would contain reaches of Home Creek and Threemile Creek. The creation of two pasture out of the large South Steens Pasture would provide the opportunity for better management and rest for these reaches of Home Creek and Threemile Creek to offset the expected increase in livestock grazing pressure.

CCA at 20. The WQMP, in an even more candid admission, also acknowledges this shell game:

The area in the Blitzen Pasture was rested in 1997 and will continue to be rested until BLM's completion of an Environmental Impact Statement (EIS) analyzing effects of livestock grazing. The South Steens Pasture was rested in 1997, but authorized grazing will resume in 1998. Negative impacts to Home Creek and Threemile Creek are expected to occur, because the only perennial and reliable

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water available for livestock during the season of use in the South Steens Pasture is in Home Creek and Threemile Creek. A shift is expected in domestic livestock distribution and, to a lesser extent, wild horse distribution toward Home Creek and Threemile Creek during this time. The upper reaches of these streams are in low to moderate gradient meadow systems, making these reaches easily accessible and very susceptible to degradation.

WQMP at 30. In addition, this passage proves that this shell game will increase degradation of already degraded, 303(d)(1) listed, streams, streams the WQMP specifically notes are "very susceptible to degradation." *Id.* The WQMP acknowledges that, as areas are rested one year, they will be degraded the next: "In 1997, RSR constructed the Stephens fence on RSR land to provide a livestock control device between the upper watershed of Threemile Creek and most of the upper watershed of Home Creek. This area was rested in 1997 but will be used in 1998. It is the area that is expected to receive increased livestock grazing pressure as a result of the construction of the Blitzen protection fence." WQMP at 51. As such, the pressures will simply be shifted, without ever being lifted sufficiently to allow any particular area to repair itself sufficient to attain water quality standards. There is ample evidence, to which allusions are made in the WQMP, that restoring stream banks and sinuosity to streams will require substantial time and significant changes in management techniques. E.g., the extreme problems in restoring groundwater inflow due to vertically-cut stream beds, WQMP at 22. In contrast, there is no analysis presented in the TMDL regarding the likelihood that this shell game will provide sufficient environmental protection, load reductions, or attainment of surrogate measures necessary to develop the resiliency in the system necessary to attain and maintain state water quality standards. Has it dawned on Department staff that nothing short of removing livestock from the land for a substantial period of time will be sufficient to bring all of the streams into compliance with the Clean Water Act?

## **2. Adaptive Management Must Lead to Attainment, not Maintenance of the Status Quo**

The shell game of moving animal units from the worst hit areas to less worse areas for short periods of time is clearly not intended to lead to attainment of streams that are, in the vernacular, "hammered." With the exception of citing to the building of some previously-identified fences, the TMDL and WQMP fail to add any clarity to what exact pollution controls will be used to attain water quality standards. Instead, the WQMP makes constant references to "adaptive management," code for whatever grazing in whatever areas BLM feels inclined to allow in a given year. In fact, contrary to the usual use of the phrase in the context of TMDLs, which means to conduct all necessary pollution control activities believed to be necessary at the time of TMDL development, subject to requiring changes in those activities based on subsequent monitoring, "adaptive management" in the context of the South Steens WQMP means "using monitoring data to refine the estimated recovery rates." WQMP at 34; see also TMDL at 7-2. This is not an isolated quote; throughout the document, the WQMP refers to changing the estimates of the time frame for attainment, rather than using data gathered to alter the pollution



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control actions that are required. The TMDL appears to echo this position: "[As information becomes available on different stream types] [t]his could result in an adjustment of the targets, as appropriate, which would [sic] also would result in the need to update the TMDL." TMDL at 4-2. This pervasive view turns the process of so-called adaptive management on its head. It also confirms, without a doubt, that the goal of this particular proposed TMDL is not attainment of water quality standards, but perpetuation of the status quo.

The WQMP also suggests that the only type of variables that will lead to refining time frames for attainment are those "outside of BLM's control." WQMP at 34. The WQMP goes on to enumerate all the many natural variables that it will be able to blame in upcoming years, rather than the TMDL's and BLM's failure to require adequately stringent pollution controls. Along these lines, the TMDL will require revision to address the recent 20,000 acre fire in the area and what changes in the livestock plan will be required.

In addition, this repetitive recitation of how time frames will be adjusted as data become available, raises the question of where are the data? The WQMP makes references to monitoring including, for example, riparian photo trends, aquatic habitat inventories, upland vegetation trend plots, and water quality parameters. Table 18, WQMP at 54. There is no statement about when this monitoring will be done, by whom, and what the likelihood is that it will be undertaken and completed. Without the data, adaptive management, under the best of circumstances, will be severely hampered.

The TMDL cites to academic and pseudo-regulatory findings concerning the importance of establishing stability and function for channel morphology. TMDL at 2-3. In fact, the TMDL justifies the use of the chosen surrogate measures on the basis of their ability to restore natural morphology to impaired streams. Id. However, there is nothing in the TMDL analysis itself that specifically addresses this restoration, and nothing that specifically addresses the non-linearity of that process. Interestingly, the WQMP acknowledges the veracity of our complaints regarding the TMDL and WQMP on the issue of restoring sinuosity and the time frame for achieving attainment of standards, or even interim milestones:

Achievement or movement toward the achievement of management objectives and water quality objectives will be ultimately dependent upon numerous processes that affect the reestablishment of the channel sinuosity and gradient appropriate to the watershed scale setting. Only after the sinuosity and gradient of the channel are stabilized through the reestablishment of watershed conditions can it be reasonably expected that parameters such as water temperature, sediment, pool frequency, or undercut banks will exhibit measurable improvement. Measurable change may not be evident for several years or decades because of natural short-term variation as well as the initial time period during which watershed conditions are reestablished and the channel stabilizes at a new dynamic equilibrium.

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WQMP at 35. There are many disconcerting aspects of this statement. First, and foremost, if the BLM, and the Department, believe, as they state here, that the sinuosity and gradient of the channel are key, a position with which we strongly agree, why does the WQMP make clear that they intend to engage in a shell game of moving animals from pasture to pasture without ever intending to allow the natural stream contours to restore themselves? Why doesn't the TMDL acknowledge that perhaps the most fundamental attribute -- or surrogate measure -- of restoring the waterbodies to standards is decreasing the energy in the system?

There are other haunting questions as well. Why does the TMDL, based on the WQMP, make bald, unsupported, statements regarding the time frame for meeting water quality objectives (e.g., a downward trend in the 3-year rolling average of maximum 7-day averages of daily maxima by the year 2000 ), when the text correctly notes that it may well take even "decades" before measurable -- not even attainment, but merely measurable -- change is evident? Table 2-1, TMDL at 2-9. Unfortunately, considering the TMDL/WQMP's failure to dictate appropriately stringent pollution control requirements, this, and the other near-term objectives, are, in fact, extremely unlikely to be met and it is the WQMP text that is perhaps one of the few truthful statements regarding the future. It is unfortunate, that in assessing the reasons why time frames are likely to far exceed those that are promoted in the WQMP and adopted in the TMDL, the BLM doesn't point to its own policies allowing the maximum grazing possible, instead laying the blame on "natural events," the "variable nature of watershed conditions," and "prescribed burns" (ironically, upon which the natural environment is wholly dependent for its self-restoration). WQMP at 35.

The WQMP states that the goals of the underlying documents, upon which the WQMP and TMDL are solely based, were not intended to meet state water quality standards. WQMP at 33. However, in some post hoc rationalization, the same document avers that "the SSAMP and CCA are the specific management plans that were developed to meet the goals that would lead to meeting Oregon water quality standards." Oregon water quality standards were not on the collective mind of the authors of the SSAMP or the CCA so these statements are disingenuous at best.

### **3. 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 two of the existing uses are under the threat of extinction. The time that passes until full attainment of standards is reached could have a substantial impact on their very existence. Presumably, this is the reason the Conservation Agreement called for the "significant actions" would be implemented within the first five years. CAA at 6. Neither the draft TMDL nor WQMP contain any analysis or justification for the dates that are chosen to meet goals, interim targets, and objectives. See e.g., WQMP at 59, "Although no specific water quality objectives are provided in the SSAMP or CCA, an estimated time frame for meeting water quality standards or attaining or closely attaining near natural conditions is provided in this document." There is

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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 sensitive 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.

Not only does the Conservation Agreement sound a note of alarm with regard to the speed with which its implementation must take place, but it emphasizes that the species are at significant risk: "Potential risks of climatic events, such as drought periods, on small, isolated populations are high (ODFW, 1992). The recent drought lasting from 1987 to 1994 probably was a major factor in the current low population numbers of Catlow redband trout in Skull Creek and the stream resident population in Threemile Creek. The low water levels also eliminated effective fish passage from Threemile Reservoir to Threemile Creek." CAA at 15. The WQMP does not reflect this concern, whatsoever, instead dwelling on the fact that attainment may take extremely long, much longer than the proposed time frames, and defining adaptive management as changing predicted time frames instead of changing management practices.

The WQMP admits that the proposed time frames are "estimates" based on the "implementation schedule set forth in the SSAMP." WQMP at 40. In other words, the TMDL analysis has added nothing to the agencies' or public's understanding of what the appropriate time frame should be for meeting the TMDL. Moreover, the WQMP notes that these estimates are based on assumptions of linear relationships which "in reality are neither linear nor constant." Id. at 40, see also TMDL at 7-2. The document goes on to say that "measurable changes in several parameters may not be evident for several years **or decades**." Id. at 40 (emphasis added). It does not state which of the parameters fall into this category and why, given this uncertainty and gloomy outlook, the authors have any confidence that the time frames presented in the WQMP and TMDL are anything but a fiction. Once again, the WQMP states that the time frames will be adjusted through adaptive management, rather than recognizing that as the goals of the TMDL, presumably based upon some technical knowledge and analysis, that it is the pollution controls implemented pursuant to the TMDL and WQMP that should change to fit the goals of the TMDL, not the time frame changed to reflect the agencies' failure to implement sufficiently stringent pollution controls.

It may be that the BLM and the Department can make the case that any tiny bit of incremental improvement, no matter how small, over any measurable time period, no matter how long, somehow constitutes movement towards attainment of standards. However, as the WQMP and TMDL correctly observe, attainment is absolutely reliant upon restoring the natural sinuosity of the stream channel, an effect so substantial that if improvements are measured in tiny increments over long periods of time, they are assured of not reaching that goal. TMDL at 7-2. The TMDL/WQMP, while acknowledging that improvements are not at all likely to be linear, fails to analyze the true needs of restoring streams that are as highly damaged as these in the South Steens, namely that non-linear regulatory actions must be taken in order to obtain a foundation

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for continuing improvement. Without such a physical foundation, attainment may well be permanently beyond the reach of these streams or stretched so far in the future that the sensitive species are unable to survive the tortured path to full restoration. We fully anticipate that, some day in the future, when insufficient efforts have been taken in the name of the "adaptive management" approach, that the Department will declare that the uses cannot be met and, using a Use Attainability Analysis, will seek to downgrade the uses of these streams. This likely event, the needs of the South Steens environment, the intent of Congress in promulgating section 303(d) to meet the goals of the Clean Water Act, and the policy recommendation of EPA's FACA Committee on TMDLs, all strongly dictate a policy that actions needed to implement TMDLs must take place at the most expeditious time frame possible. TMDL FACA Report Section 5.7 at 41.

The WQMP hints that there are choices regarding the speed with which restoration can take place. In discussing grazing practices, it notes that "additional fencing will be needed to enable livestock distribution that will allow continued and **possibly accelerated progress** in the recovery of the riparian areas in Home and Threemile Creeks." WQMP at 52 (emphasis added). The Conservation Agreement noted the need for speed to benefit the sensitive species in the watersheds. CAA at 6. The TMDL should choose an allocation scheme that will result in the most accelerated progress towards attainment of water quality standards possible. The WQMP should identify those actions which are necessary to attain such allocations. Instead, the WQMP muses on the subject. Likewise, the WQMP notes that to achieve "full effectiveness" of the Stephens fence, the Lauserica fence and a Stephens fence extension are needed. WQMP at 52. Yet, nowhere in the WQMP does it state that these fences will assure attainment of standards nor that their construction is necessary to implementing the TMDL.

In sum, there is absolutely no evidence in the TMDL, or the underlying documents, that the time frames in the TMDL are based on any analytical analysis. Even so, the time frame for attainment is twenty years, making attainment of standards in the South Steens over 45 years following passage of section 303(d) by Congress. And, as discussed herein, there is ample evidence that they are not even remotely likely to be met, given the limitations of the pollution control/instream water restoration activities posited in the TMDL, the WQMP and the other program documents. These time frames are estimates based on absolutely nothing. Neither the Department nor the BLM has provided any evidence that the time frames themselves will dictate the speed and degree of pollution control actions being taken. But the TMDL and WQMP are littered with observations that the adaptive management approach will be used to refine the estimated recovery rates, as opposed to drive them to go faster. The TMDL is a sham.

## **B. Numeric Targets are Ill-Defined**

The TMDL is not entirely consistent with regard to its goal. The numeric temperature criterion is cited as the target. TMDL at 1-5. However, in discussing the riparian and upland objectives, the TMDL notes that the waterbodies will meet "natural conditions" by the year 2017. TMDL at 2-9. There is no explanation of how these two goals/objectives differ or are correlated.

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Moreover, the WQMP notes that achievement of "natural conditions" is defined as riparian habitat in "good or excellent condition." WQMP at 32. There is a substantial difference between good and excellent; the WQMP and the TMDL must decide which goal is necessary to meet water quality standards, not equivocate. The WQMP also states that "[r]ecovery is assumed to be defined by the potential of the area." WQMP at 33. Is this intended to be some sort of Use Attainability Analysis (UAA)? If so, it is hardly sufficient to meet federal regulations. If not, this statement has no place in a WQMP that is intended to masquerade as a TMDL. Taken together, the statements regarding natural conditions surely suggest that the Department and the BLM have an idea that the true goal is something less than attainment of numeric criteria, and perhaps something less than attainment of standards.

The TMDL focuses on providing 80 percent stream bank stability as a surrogate for temperature. According to BLM's glossary, this is at best a definition of the minimum that could be considered "good" riparian conditions. WQMP at 63. Nowhere in the TMDL is it explained why a "good," rather than "excellent," condition is the goal of the South Steens TMDL, or equivalent to meeting state water quality standards including protection of the beneficial uses. Moreover, since the definition of "good" is actually "more than 80 percent of streambanks stable," the goal of this draft TMDL is actually something less than good. *Id.* Particularly given the presence of sensitive species likely to be listed as threatened or endangered under the ESA, this goal is of questionable validity.

To the extent that the document intends to suggest that there are stream banks that are irreparably impaired, these banks should be identified as part of the allocation of stream banks that will not be repaired. However, there is absolutely no quantitative analysis of the degree to which stream banks fall into this category of being limited by their "potential" nor of the geographic location of such stream banks. For all a reader knows, the amount of stream bank that the Department deems conscribed by its potential is already greater than the allocation made by the TMDL of eroding stream banks within the South Steens area as a whole or some smaller geographic area. Without this information, the TMDL cannot be said to show that it will lead to attainment of water quality standards.

### **C. The Determination of the Total Loading Capacity is Flawed Because Pitfalls of the Surrogate Measures Approach Undermine the Overall Sufficiency of the TMDL**

NWEA supports the surrogate measures approach as providing a more useful analytic foundation for necessary pollution control actions than loadings for nonpoint sources such as grazing. However, the pitfalls inherent in the approach can render the benefits as useless as the approach has the potential to be useful. There appear to be two major areas where the approach can go awry. The first is in the technical analysis that ties the surrogate measures to the water quality standards. The second is how the surrogate measures are tied to data on the waterbodies in order to determine the appropriate prescriptions. NWEA believes that, while not without flaws, the draft of the South Steens TMDL presents an acceptable framework to the first step, making the connection between the standards and the surrogate measures. The TMDL, however, while it

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cites to the preamble of the 1985 regulations -- "TMDLs are needed to bridge the gap between existing effluent limitations, other pollution controls, and WQS" -- 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. TMDL at 5-1. By failing to meet that second test, the TMDL becomes an academic exercise, used merely to justify the ambiguous actions of other programs and to claim that the mandatory duty to develop TMDLs is, at long last, underway in Oregon.

The choice of the surrogate measure, 20 percent actively eroding stream banks, is not entirely explained despite extensive discussion in the TMDL. The TMDL states that the number is based on a description of "good salmonid fish habitat" in the Riparian Management Objectives (RMO) for the "Inland Native Fish Strategy," developed by the U.S. Department of Agriculture. TMDL at 1-3. Unfortunately, the TMDL never explains why "good" fish habitat is equivalent to meeting Oregon's water quality standards, including protection of sensitive species. Nor does the TMDL explain how this surrogate measure will result in attainment of the Oregon sediment standard, other than achieving the appropriate width:depth ratios. In order to meet the standard, the existing impairment of excess sediment load must be removed as well as future loads reduced. This does not appear to be recognized in the TMDL and WQMP in their discussions of proposed or expected time frames and necessary actions. The Clean Water Act does not direct EPA or the states to merely defer to other agencies when determining compliance with state water quality standards.

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 noneroding bank, and other similar measures, are merely goals pulled from thin air. 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 an assessment of how much eroding bank, shade cover, etc. exists and to what degree. Second, the TMDL must determine what level of effort -- rest periods, active restoration, minimal grazing, etc. -- will be required to go from this current amount of eroding bank to the ideal amount of eroding bank. If this is not a part of the TMDL, it must at least be a part of the TMDL implementation plan, also known as a WQMP. Yet, neither the TMDL nor the WQMP address what assumptions about the activities that are or are not taking place underlie the time frame and interim targets set out in the TMDL. Neither document states as a matter of technical analysis that the existing plans are sufficient to meet those interim and final targets.

One way to view this problem is that there is a continuum of possible human impacts or lack of activity, ranging from all season-long grazing on one end to a program of no grazing/active restoration at the other end. In the middle there is managed grazing. The TMDL should establish where along this continuum activities can take place, and at what times, in order for the waterbodies to make the swiftest possible movement toward attainment of standards. Since, as the WQMP recognizes, control actions for grazing do not yield linear results, the TMDL should establish what activities along this continuum can be allowed or should be required in order to

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first stabilize the area, to create the critical level of resiliency necessary to withstand high energy flood events and to obtain other benefits of a more sinuous and natural channel (e.g., groundwater flow). Thereafter, if some increase in human pressures may be borne by the waterbody while still maintaining expeditious upward trends, these may be allowed if the analysis demonstrates that fact. In contrast, however, the proposed South Steens TMDL fails to recognize that the speed with which changes are made is relevant to attaining standards or that the natural resiliency plays a role in ensuring the success of the TMDL. As mentioned above, the surrogate measure approach should be considered for the need to diffuse energy in the system. This measure would be a direct link to the need to establish resiliency which is a required element of attaining water quality standards.

Despite the acknowledged need for particular types of herbaceous cover (e.g., aspens but not juniper), the TMDL does not include a surrogate measure for specific vegetation, preferring instead the "view to sky" surrogate. TMDL at 2-5. There is no justification presented for this more generic surrogate in the TMDL. The WQMP, for example, notes that especially in areas of juniper encroachment the decline in plant species diversity and plant community structure is causing "low infiltration of snowmelt and rain and a loss of protection for the surface soils." WQMP at 22. The WQMP specifically notes juniper as a cause of failure to meet the temperature standard and "other water quality parameters." *Id.* Likewise, the Conservation Agreement identifies the importance of aspen groves, problems with their regeneration, and the need to provide them with "rest," yet the TMDL does not address their role. CAA at 23. The TMDL itself notes that riparian vegetation provides more than stream surface shade, e.g., bank maintenance capable of withstanding high energy flow events and capture of subsurface flows. TMDL at 2-10. Notwithstanding this more complex role of riparian vegetation, the TMDL focuses only on those species/riparian community types that provide shade, with no analysis of the acknowledged importance of the other issues. *Id.* It also sets out the riparian vegetation needed to meet the "view to sky" surrogate measure, but stops short of making these surrogate measures. Table 7-1, TMDL at 7-1. Clearly, a surrogate measure TMDL should incorporate this analysis and include a surrogate measure to address it in order to assure that the TMDL will lead to attainment of water quality standards.

The TMDL also discusses the impacts of grazing under certain conditions, e.g., streambank saturation, critical growing seasons. TMDL at 3-1. This discussion does nothing to guide allocations or management actions but merely serves to buttress the TMDL's conclusion that grazing leads to eroding stream banks and reduced shading that cause water quality impairments. While the TMDL is required to make this connection between sources of pollution and water quality standards, and while this connection may be news to certain vested interests, the TMDL must be much more than this. Instead, it should be an explanation of why and how the implementation of surrogate measures, through the allocations, will attain water quality standards. If anything, the TMDL section on existing sources serves to illustrate why the surrogate measures alone will not be sufficient to attain standards because the TMDL does nothing to take into account the conditions the document itself notes are so important. The TMDL should, in fact, address these seasonal variations in loadings in order to be in compliance

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with the statute and regulations. CWA 303(d)(1), 40 CFR 130.7(c)(1). A mere reference to the existence of data upon which conditions can be evaluated for seasonal variation is not equivalent to taking the seasonal variation into account. Table 1-3, TMDL at 1-5. It appears that there are data on seasonal variations in flow that can be used to understand the timing of high energy flows in the South Steens area. Figure 4-2, TMDL at 4-2.

As the draft South Steens TMDL stands now, its analysis cannot shed any light on where along the continuum of more or less grazing restrictions, in what time frame, must be required in order to obtain water quality standards attainment. The TMDL does not even acknowledge the issue of the rate of recovery of eroding stream banks. 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 be tied to 1) existing conditions, 2) creating resilience in the system at the outset, 3) leading to attainment in the shortest possible time, and addressing 4) 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.

#### **D. The TMDL Must Address the Lack of Sufficient Instream Flow**

The WQMP states: "It is recognized that all of the watershed conditions are interrelated." WQMP at 34. The TMDL states that, in analyzing watershed processes and pollutants, "summer low flows" have a role in contributing to temperature increases. TMDL at 2-2. It notes that "streamflow" is a factor that can alter the stability and function of a stream, in its discussion of channel classifications. TMDL at 2-3. And, in discussing BLM's proper functioning condition, it highlights the importance of dissipating stream energy associated with "high waterflows," "flood-water retention," and "ground-water recharge." TMDL at 2-4. The TMDL also states that "[s]ignificant water temperature increases are noted for lower flows when the 'view to sky' is above 20 percent. As documented in numerous studies, these water temperature changes become less pronounced as stream flow increases, even though solar radiation loads increase." TMDL at 2-5. Nowhere in the TMDL, however, does the document establish what the streamflow of the named waterbodies are, a necessary variable in determining a stream's loading capacity. By utilizing surrogate measures instead of evaluating loading capacities, the TMDL avoids the issue altogether insofar as water flows are necessary for the dilution of pollutant loads. Likewise, the TMDL is silent on the role of flow to support of beneficial uses, with the exception of the academic citations mentioned above. Instead, the TMDL takes credit for the allegedly conservative assumption of not accounting for the benefits of increased groundwater inflow from future pollution control actions, in its statutorily-mandated margin of safety.

The TMDL should establish all locations in the watershed where there are withdrawals of water. For example, the WQMP notes that there are withdrawals of water from Skull Creek and notes that management of the Skull Creek Reservoir is a nonpoint source of thermal pollution. WQMP at 26, 29. These diversions result in "reduced flows with intermittent stream reaches with only subsurface flow." WQMP at 31. See also, CAA at 15, 23. The TMDL must also account for the reductions in flow and/or reduction of cooler groundwater flow due to the



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nonpoint sources. For example, the WQMP discusses the effect of juniper encroachment on decreasing flows due to lack of precipitation capture and loss of protection for soils. WQMP at 22. This document also notes that insufficient vegetation in upland areas, lack of streambank stability along with sparse or non-vigorous vegetation in riparian areas, water diversions from Skull Creek to the Skull Creek Reservoir, and degradation of the Skull Creek Road all contribute to "flow modifications." Table 13, WQMP at 24-27. The Skull Creek Meadows wetlands, waterbodies incorrectly omitted from the TMDL as described above, "contain the hydrologic connection between upper Skull Creek and lower Skull Creek" as well as a retention area for "later season release of flow." WQMP at 31. See also, CAA at 23, for discussion of importance of wetlands for improving flows.

The TMDL must also assess whether the existing flows are sufficient for the protection of the beneficial uses and, if not, how they will be restored. If so, is there a basis for believing that these flows will be maintained? If there is not, the TMDL must take reduced flows into account or it should call for a mechanism to ensure no further flow reductions. At the very least, it must note how low flows can go before the TMDL itself is no longer valid. The Conservation Agreement notes that "[a]ssessment of water flow patterns, diversion system, potential risks to movement or loss, and potential fish passage protections for these areas as well as to study possible historic connectivity." CCA at 16. The TMDL itself, as pointed out above, notes the importance of stream flows, both low summer flows and high waters from storm events.

It is patently not sufficient for the WQMP to justify withdrawals of water sufficient to leave only subsurface flow in Skull Creek on the alleged basis that the "reservoir also provided habitat for fish, possibly more than the stream would have provided." WQMP at 31. Is the WQMP measuring the habitat of the stream in its current anthropogenically-impaired condition against that provided by the reservoir, or against historic habitat of the stream? The likely answer, of course, is that this is an attempted justification of reservoir operation rather than a technical finding that human conditions which have brought two species in the area to the brink of extinction are preferable to natural conditions. In addition, the WQMP notes that in 1997, ice damage began causing erosion of the dam, necessitating its repair. This is an obvious place for the TMDL to direct the reconstruction of the dam so that in its repaired condition it will contribute to, rather than detract from, attainment of standards. It should also assess whether the current structure is in compliance with existing fish passage law. ORS 498.531. Instead, the TMDL is silent. Likewise, the WQMP notes that part of the solution to keeping cattle out of riparian areas is the development of springs. WQMP at 75. There is no analysis, however, in the TMDL or the WQMP about the potential for this development to increase impairment of either water quality and quantity.

The TMDL's failure to evaluate critical flow conditions for the identified beneficial uses is a serious flaw in its analysis. Flow diversions from Skull Creek to the Skull Creek Reservoir have a substantial impact on instream flows. WQMP at 26. Lack of instream flow has impaired fish passage from Threemile Creek to the Threemile Reservoir, among eastside Catlow Valley streams, and between Garrison Lakes and South Catlow Lake. CAA at 15. Other water quantity

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management such as "adjusting timing and flows through diversions and ditches to provide water for fish passage" as well as "structures such as screens, ladders, or steps" are necessary to address the impact of anthropogenically-induced changes in instream flow. CCA at 22. Other program documents make clear that successful recolonization of lost populations is impaired due to irrigation withdrawals and the species' restriction to "periods of cool temperatures because of its physiologic need for cooler water temperatures," due to populations of trout and chub between Garrison Lakes and South Catlow Lake having their movement impaired. CCA at 15. "Low water levels also eliminated effective fish passage from Threemile Reservoir to Threemile Creek." *Id.* The same conditions that affect recolonization also affect the genetic integrity of the fish, which is "dependent upon their ability to interact among the Catlow streams through fish movement among the eastside Catlow Valley streams." *Id.* Moreover, the chub has been identified as requiring certain velocities which should be quantified in the TMDL. By failing to take the physical attributes of instream flow into account, the TMDL analysis is flawed and cannot show that standards will be attained.

The WQMP notes that "the majority of the perennial flow in the headwater tributaries to the Donner und Blitzen and in the Catlow streams is dependent upon in flow from springs and subsurface flow." WQMP at 21. It also recognizes sufficient water quantity to support beneficial uses as a necessary objective to meet the goals of the SSAMP and CCA. E.g., WQMP at 40, 41. Despite the importance of flow to maintaining beneficial uses and success in reducing temperatures to those required by standards and regardless of the fact that excessive grazing has substantial impacts on subsurface flows, the TMDL fails to acknowledge and analyze the role of instream flows and their sources. Because instream flows play such an integral role in determining whether these waterbodies will attain standards and because instream flows are an integral component of determining the total loading capacity of a stream, in the development of a TMDL, no TMDL is complete without an analysis of this issue. The fact that state water law governs the rights of water appropriators is irrelevant to the technical analysis. In fact, many regulatory measures that are not a part of the Clean Water Act or are not a required part of section 303 of the Act, such as the BLM legal requirements mentioned in the WQMP and state statutes, which are not mentioned, must and will be used to implement the TMDL itself. Water rights laws are no different; the TMDL merely informs the regulators and the public of whatever need there may be to alter the use of water. Likewise, to the extent that land management activities, such as grazing, are responsible for changing instream flows due to changes in subsurface flow, controls on those activities are just as necessary as controls driven by the need to reduce sediments or increase riparian cover. For the TMDL and WQMP to distinguish between flow and pollution is to make the document nonsensical.

The TMDL purports to address groundwater inflow, through its margin of safety. Instead, whether sufficient groundwater inflow will be attained to reduce temperatures and otherwise provide beneficial use support, should be a part of the TMDL analysis and prescriptions. Perhaps it is just unclear wording, but, as discussed above, the WQMP suggests that the loss of groundwater inflow may be irreparable. WQMP at 22. The TMDL should analyze the likelihood of attainment of standards without this inflow, should quantify the necessary amount

of inflow, and devise pollution controls that will address the problem.

**E. The TMDL Fails to Identify NonPoint Sources**

The WQMP notes the specific sources of nonpoint source pollution, namely the Roaring Springs Ranch private property and BLM managed land, and management of the Skull Creek Reservoir. WQMP at 29, 30. Because the information exists, 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. TMDL at 3-2. The Department should not make it a practice to develop TMDLs that name point sources, while ignoring specific known nonpoint sources and sources of water withdrawals or physical impediments. This is neither equitable nor environmentally-wise. 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.

The TMDL notes the importance of identifying hazard areas in the development of a TMDL. TMDL at 1-4. We strongly agree. However, the TMDL ignores any such data that currently exist or should have been obtained for the purpose of preparing this TMDL. There are data on such hazard areas. For example, the gravel access road from Highway 205 to Skull Creek Reservoir was identified as causing meadow loss (in the Skull Creek Meadows wetlands), erosion, and reduced flows. CCA at 19, WQMP at 31. These meadows are noted as being "wetland habitat" and "contain[ing] the hydrologic connection between upper Skull Creek and lower Skull Creek" as well as being a "depositional area for sediment leaving the upper watershed and a retention area for runoff to allow a later season release of flow." *Id.* It is likely that other data, referred to above, could be used to identify hazard areas. When addressing nonpoint sources, it is extremely important that hazard areas be identified, and prescriptions intended to control the loading or impairment from them devised. Neither activity has taken place in the context of the draft TMDL or WQMP, rendering likely that the TMDL will not lead to attainment of standards.

Likewise, the TMDL must identify those areas where the allocation for eroding stream banks is already used up. The WQMP states that there are areas where the "natural condition is limited to the potential floodplain development within the incised channel and continued shifts in localized erosion and deposition of the channel is still moving toward equilibrium." WQMP at 33. To the extent that the TMDL and/or WQMP determine that some banks are irreparable and contribute to even greater than normal sediment loads, thermal loads, and/or loss of groundwater inflow, the allocations made to improving the conditions of the remaining stream banks must be greater.

**F. Barriers to Fish Passage Must be Considered in this TMDL**

The goal of the Clean Water Act is to restore the physical integrity of the country's waterbodies, not merely clean up anthropogenically-induced chemical pollutants. The physical integrity of fish habitat is of well known importance. The TMDL should recognize such limitations to restoring the full support of beneficial uses by including in its analysis such requirements as rectifying barriers to fish passage. For example, the Roaring Springs Ranch is considering the installation of a fish passage device, presumably because it may be necessary to obtaining full support of uses. CCA at 18. Other, similar, barriers must be addressed in order that the TMDL will lead to attainment of water quality standards.

### **G. Consideration to Allocations Must be Improved**

Nowhere in the TMDL is it explained how wild horse and fire suppression uses are factored into the allocations nor why wild horses are considered anthropogenic sources. TMDL at 1-2. Nonsuppression of fire and wild horses should be considered natural, not anthropogenic uses, and as such there must be an analysis that shows allocations given to anthropogenic activities of grazing and water withdrawals are more stringent to accommodate these less controllable "loads." These sources cannot simply be discussed and then no allocations given to them. The TMDL also needs to ensure that it is clear no allocations are made to other future activities such as future water withdrawals, placer mining, new roads, increased road use, or any other activity - commercial or recreational -- that will reduce instream flows and/or increase pollution. Where NPDES general permits apply to such activities and parameters ostensibly covered by the TMDL, the TMDL should identify those restrictions as overriding any coverage by those NPDES permits.

The Conservation Agreement notes that Skull Creek, Threemile, and Sixmile Reservoirs should be assessed as potential refugia for the trout and chub. CCA at 16. If the reference is to thermal refugia, an allocation should be made to keeping this water colder. Oregon's temperature standard has a provision for these all-important thermal refugia, a provision which should not be ignored in the context of a TMDL, one of the most appropriate times to consider how Oregon's standards apply to the environment.

Allocations should be based on knowledge of the waterbodies. Despite the TMDL's statement that "surrogate measures can be linked to specific source areas," and that allocations "must also recognize natural patterns," the TMDL fails to do this. TMDL at 1-3, 5-3. Instead, allocations for each individual stream were "calculated by taking the percentage of the stream length." Table 5-2, TMDL at 5-4. Where hazard areas have been identified, allocations in the TMDL should take their load contribution into account. The WQMP should then make prescriptions based on those allocations. For example, the gravel access road from Highway 205 to Skull Creek Reservoir is an identified source of meadow loss and erosion. While the TMDL is silent on this road, the WQMP alternately notes its degraded state and mentions 1997 "improvements." WQMP at 53. The WQMP does not state, however, whether these improvements are sufficient to reduce the sediment loads, restore the hydrologic connection between upper and lower Skull

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Creeks provided by the truncated Skull Creek Meadows, or restore the degraded wetland habitat, opting instead to merely provide information.

Reintroducing fire to the ecosystem is important, particularly to control juniper domination. However, areas where fire is reintroduced will result in short-term increases in soil erosion and sediment losses from the watersheds. Therefore, prescribed natural fire and prescribed burning should be given allocations within the TMDL. Moreover, the allocations to fire should be maximized to the extent necessary to control the juniper and allow the most expeditious restoration of the watershed. Instead, the WQMP seeks to minimize sediment losses in the watersheds by restricting areas with reduced vegetative cover from fires to 15 percent, while allowing continued sediment losses from continued grazing. WQMP at 76. In other words, the fire prescription is necessarily connected to the desire to continue maximum grazing, and by minimizing fire the TMDL will slow the process of recovery, rather than allow it to proceed as expeditiously as possible. Moreover, as all burn areas require two growing seasons of rest from grazing following the reintroduction of fire, because the BLM seeks to minimize the area that is being rested, it is likely that only those areas which have been burned will be allowed to rest, and no others. WQMP at 76. Neither the TMDL nor the WQMP analyzes the effect of this approach on attaining water quality standards. Neither document analyzes the proposed ten year period in which fire would be reintroduced to suitable areas to the time frame and likelihood of attainment of standards.

#### **H. The Margin of Safety Must be Quantified and Cannot Merely Allege that Conservatism Exist**

The TMDL suggests that the only margin of safety (MOS) required is an allegation of conservatism in the analysis. The referenced conservatisms -- maximum air temperature, windspeed, and groundwater inflow -- are indeed conservatisms, however having such conservatisms in the analysis of the TMDL is more than adequately justified in light of the other weaknesses of the draft TMDL (including, but not limited to, for example, failure to adequately protect sensitive species, lack of sufficient site-specific data, failure to consider significant risks to species from drought, lack of consideration of insufficient instream flows, use of an adaptive management strategy due to lack of knowledge concerning the efficiency of proposed controls). There are other non-conservative factors, noted by the WQMP as outside the control of humans, such as elevation, ambient air temperature, etc., which presumably must be taken into account in determining whether overall claimed conservatisms provide a sufficient margin of conservatism to be claimed as the statutorily-mandated margin of safety. WQMP at 22. There is no such analysis. The MOS should offer something more than vague references to conservatism, and must at the very least be quantified. Two graphs concerning the effect of air temperature and wind speed are offered as suggestions that the MOS has been quantified. Figure 6-1, TMDL at 6-1. There is nothing in the TMDL, however, against which to evaluate what the meaning of these graphs are, such as which assumptions were used in the models chosen and how those assumptions compare to data from the South Steens area. The preferred solution is to include an allocation of the surrogate measures as the MOS. This quantified, measurable MOS will get

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translated into real actions in the field, rather than getting lost in the balance sheet against such highly non-conservative approaches as adaptive management and cookie cutter TMDLs, such as this one.

The TMDL claims, but does not quantify, groundwater inflow as part of its margin of safety. It is not clear, however, that the increase in groundwater inflow isn't already part of the existing analysis that arrives at the surrogate measures being sufficient to attain standards. Until the groundwater component is clearly identified as not a part of the surrogate measure, which is derived from INFISH, it should be assumed that it is. Moreover, the WQMP itself casts doubt on the amount of otherwise naturally-occurring groundwater that will enter the streams of the South Steens. It notes that, while historically groundwater would recharge surface flow during dry summer months, "these streams have shown evidence of downcutting of the stream channel and lowering of the alluvial ground water level." WQMP at 22. It goes on to suggest that this may be irreparable, and given the lax pollution control prescriptions of this TMDL/WQMP, the situation certainly does seem irreparable: "Although improving, much of the banks in these areas are vertically cut and actively eroding without sufficient bank development for recovery of an existing floodplain or for formation of a new floodplain within a downcut channel or new channel." *Id.*, see also WQMP at 33. Rather than claiming this inflow as a margin of safety, the TMDL should address this serious impediment to attaining water quality standards in the body of its analysis, an impediment the WQMP suggests may be worse than lack of conservatism in the analysis and the TMDL acknowledges is a significant variable in temperature increases. TMDL at 2-5.

Given global climate change and other climate variabilities, and its localized impacts on the South Steens, the maximum air temperatures used by the South Steens TMDL should not automatically be presumed to be conservative. The burden is on the Department to demonstrate that this is a quantifiable conservative assumption.

Finally, while the TMDL does not specifically claim as part of its MOS other assumptions regarding identification of a critical period, critical stream flow conditions, and assumptions regarding channel width:depth ratio and "potential natural vegetation," these alleged conservatisms are discussed in this MOS section as if to take credit for them. TMDL at 6-1. However, those that are seasonal variations, as required by law, cannot also be claimed as part of the mandatory MOS. The assumptions regarding channel width:depth ratio do not appear to be conservative. The TMDL itself notes that "rangeland streams, however, may not always achieve wetted width:depth ratios of less than 10," the description of "good" anadromous fish habitat. TMDL at 2-8. At the same time the TMDL states repeatedly that the two surrogate measures are mutually dependent upon each other. e.g., TMDL at 1-3. Since the TMDL notes later that variables used in the analytical framework were "air temperature (as influenced by vegetative shade)" and "wind speed (influenced by vegetation," it seems to suggest that if both surrogate measures are completely met, the water temperature may be lower than predicted. TMDL at 7-1. The TMDL, however, has also stated that this is unlikely and repeatedly noted that there are limitations to restoring stream banks and vegetation as well as natural conditions that cannot be

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changed. It is difficult for the reader to conclude that these are, in fact, quantifiable margins of safety.

It is also unclear what the reference to "potential natural vegetation" means. If it means that the TMDL has underestimated how much natural vegetation will grow due to the actions stimulated by the TMDL, there is no evidence of that presented in the TMDL or any of the underlying documents and, if the pollution control measures are any indication of what is likely to happen in the South Steens, it appears more likely that revegetation is overestimated.

### **I. The TMDL Proposes to Use Adaptive Management but Provides No Process for Subsequent Monitoring and Revision**

While there is a reference to the South Steens TMDL using adaptive management, there is nothing in the TMDL that establishes when and how this approach will be taken. Is this some form of phased TMDL? If so, when will Phase II take place and what information will be necessary to support Phase II? Alternatively, will implementation be phased? If so, how will the phases take place? Who will evaluate whether and when the TMDL is working properly? Who will monitor what and how and when to what effect? The TMDL leaves all of these questions unanswered.

#### **1. Monitoring and Revision**

Despite the admission that this TMDL will be implemented through adaptive management and the fact that the TMDL contains no analysis of the likelihood that its goals and timelines will be met, it contains little information on post-TMDL monitoring and revision. Despite statements that the adaptive management will be implemented through **annual** adjustments, the monitoring is far from annual. For example, the BLM proposes that it will measure soil stability, canopy cover, vegetation changes, and temperatures in Catlow valley streams, every 3-5 years. Appendix 4, WQMP at 81-85. Streambank stabilization -- the foundation of this TMDL -- will only be measured every 5 years, with the exception of the "most actively eroding areas," which will be done annually. *Id.* at 84. Sedimentation, one of two identified pollutants the TMDL seeks to address will be monitored every 10 years. *Id.* These pathetic monitoring plans, for a TMDL/WQMP that is built on requiring little more than a shell game of moving cows from one battered parcel of land to another, makes a mockery of the notion that adaptive management is going to restore these streams to water quality standards. The TMDL itself does not comment on whether the monitoring plans for the SSAMP, that are presented in Appendix 4 to the WQMP, are sufficient in scope and in frequency, to direct adaptive management for the purpose of attaining water quality standards. In addition, the cryptic language used in this table makes difficult to judge what actually will be done. For example, what is a "most actively eroding area," and when is it deemed to be worthy of monitoring for streambank stability? Specifically, the TMDL should evaluate the monitoring plan in light of the surrogate measures chosen and the requirement to meet allocations in order to attain water quality standards.

## **2. Existing Adaptive Management**

According to the WQMP, the preferred alternative for the South Steens AMP was implemented in 1996. WQMP at 59. In this alternative, studies were to be conducted to support the use of adaptive management. In addition, certain management actions and fish passage improvements were supposed to be in place in two years. For example, all 7.8 BLM miles were supposed to evidence an "upward trend in riparian condition by 1998." Table 16, WQMP at 40. According to statements such as these in Table 16, in combination with those contained in Table 18, a substantial body of information presumably exists, information that either was not used in developing the TMDL, or was not gathered in a timely fashion. WQMP at 54. If the information exists and was not used, the TMDL is defective. If the information was not gathered, the TMDL must address the likelihood that its proposed adaptive management strategy is likely to work considering the failures of the recent past. If the information was gathered and it demonstrates that the objectives were not met, the TMDL must also address this failure in determining the likelihood of success. Where there is evidence of failure in the recent past, the TMDL should include a larger margin of safety, different allocations, a different pollution control approach, and/or additional conservative assumptions.

## **3. Proposed Adaptive Management**

The WQMP states that the "proposed management measures were developed for the SSAMP and CCA and correct these past management practices [of grazing, wild horse management, and wildfire suppression]." WQMP at 51. It goes on to say that, for domestic livestock grazing, the "improvement measure" identified in these two earlier documents is the implementation of "an adaptive management strategy." *Id.* Putting aside the fact that adaptive management is defined repeatedly in the WQMP and TMDL as revising time frames to reflect reality, rather than revising practices to meet Clean Water Act and Endangered Species Act goals, "adaptive management" per se is not a panacea to the identified poor past management practices. First, it is not defined what adaptive management consists of, so that from year to year, the BLM and private landowners will negotiate whatever actions they choose -- the "annual prescription for grazing" -- without public knowledge or input, without review by DEQ or EPA. WQMP at 72. Second, as the WQMP goes on to point out, adaptive management, BLM-style, "considers the entire operation of BLM and the private landowner." *Id.* Although these statements are ambiguous, they appear to contemplate goals other than meeting the Clean Water Act generally, and the TMDL specifically. The only information presented in all of the documents other than goals and objectives, is the fact that other requirements are causing fences to be built, that some wells and spring development will take place, and that livestock will be moved from here to there and back again, in order to create the appearance of change without relieving the pressures on the landscape sufficient to attain water quality standards. There is no statement concerning what will be done if measurable improvements are not discerned within the time frames predicted, except, of course, to alter the time frames. For example, the WQMP states that "[a]djustments will be made as needed to meet the objectives if monitoring indicates that progress is not occurring." WQMP at 61. However, this statement is useless because it does not



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state the time frame in which monitoring will be done to ensure progress, the proposed speed against which the real progress, or lack thereof, will be measured, or the nature of the adjustments.

The only specifics provided concerning proposed grazing is buried in the WQMP in Appendix 3 where a general schedule of adaptive rotational grazing is described. WQMP at 72. This schedule includes annual grazing with and without alternating seasons of use. There is no analysis presented here, or in the TMDL itself, that grazing 21,197 AUMs in this fashion will lead to attainment of standards. There is no analysis in the WQMP or TMDL that this general schedule will be altered significantly in response to monitoring information. There is no analysis in the WQMP or the TMDL that riders, upon whom the effectiveness of grazing management depends "heavily," will be able to "control utilization levels within pastures" or "meet the physiological requirements of key plant species by controlling intensity and timing of grazing as well as providing periodic rest and deferment." *Id.* There are merely statements about what the schedule and levels of grazing will be, assuming that the riders are able to distribute and move the cattle as planned, an untested assumption. While Appendix 3 illustrates some of the adjustments that will be made to account for particularly dry or wet conditions, it says nothing about how the grazing schedule for baseline "normal" conditions would result in attainment of standards.

## **VI. PUBLIC COMMENT OPPORTUNITY IS BOTH INSUFFICIENT AND EXCESSIVELY DIFFICULT**

While it may have served the interests of the Department, the Bureau of Land Management, and the EPA to prepare numerous separate, but interconnected, documents that must be read together as "a TMDL," it makes the process of commenting on this proposed TMDL very difficult. It is not possible to just comment on the TMDL itself, nor on the TMDL and WQMP, because allegedly the analysis, and all of the underlying information, assumptions, and plans, that is missing from these two documents is contained in the SSAMP and CCA. Certainly it is true that important information is set out in the other documents, although altogether there is a dearth of analysis. It is improper to ask that the public be prepared to wade through four separate documents at all, but particularly since the public has been specifically told not to comment on the SSAMP and CCA, from which all of the underlying information and analysis in the WQMP, such as it is, are derived.

As noted above, the WQMP and the TMDL derived from it, are based on previously developed plans. The public was not given the opportunity to comment on the CCA, which was negotiated between its signatories. The SSAMP was also not open to public comment but "underwent public scoping." WQMP at 61. To the extent that the public commented on the SSAMP, at that time the public had no knowledge that the Department was proposing to rely upon that document as satisfying section 303(d) of the Clean Water Act. BLM's attempt to call the involvement of an extremely small number of invited entities "public involvement" or "public review" fails. Yet,

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the WQMP, from which the TMDL is derived, states that the time frames for attaining management objectives are "based on the implementation schedule set forth in the SSAMP." WQMP at 53. Therefore, the public has effectively been given no notice and opportunity to comment on the documents that the Department acknowledges constitute the analysis and action plan of the TMDL, but merely the technical analysis pasted over these documents at the last minute in order to satisfy statutory requirements. The Department has two choices: prepare a TMDL that directs the control actions necessary to attain water quality standards or reissue all the documents for public comment.

NWEA recommends that the "TMDL at a Glance" should not oversimplify the problems faced by these watersheds. TMDL at 1-1. This section of the TMDL states that temperature increases are the only "impairment" when in fact the underlying documents point to a wide range of impairments, most of which are discussed in this comment letter. This is wholly misleading and only serves to repeat the statements under "pollutants." *Id.* Moreover, this section should discuss the quantity and flow of water in the subject streams. Flow is a fundamental part of any TMDL calculus and a fundamental part of supporting aquatic beneficial uses in the South Steens; to ignore it on the title page of the TMDL insults the intelligence of the reader.

The TMDL refers to the Department's "Guidance for Developing Water Quality Management Plans That Will Function as TMDLs for Nonpoint Sources." TMDL at 1-1. It states that the WQMP prepared by the BLM addresses the guidance's basic elements. *Id.* However, it does not why the BLM's WQMP apparently failed to be sufficient to serve as a TMDL whether for failures in the federal agency's document or insufficiency in the Department's guidance. If the TMDL chooses to discuss this topic, it ought to satisfy the curiosity of the reader.

## **VII. GENERAL OBSERVATIONS**

This public comment period has presented the public with an ill-thought-out hodgepodge of documents purporting to meet the requirements of section 303(d) of the Clean Water Act. While NWEA is grateful that EPA decided to prepare a TMDL, in lieu of allowing the Department to go out to public comment with the WQMP serving as an alleged TMDL, the end result is very difficult set of documents upon which to comment. What exact role the WQMP is supposed to play the Department never says. To what degree is the TMDL supposed to stand on its own, without the WQMP, or the other underlying documents? It is patently unfair for the Department to serve up this mess, partially pursuant to its own guidance and partially in apparent contrast to it, and expect the public to respond. The TMDL and WQMP would also be greatly improved were they to include a complete map of the area and the waterbodies.

The TMDL should be a document that restores water quality to standards and then maintains the quality at or above standards until such time as it may need to be revised. These proposed

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TMDLs and WQMPs, however, are based wholly on two documents each of which are intended to last for only ten years, the SSAMP until 2006 and the CCA until 2007. WQMP at 62. This throws into question both the TMDL and the WQMP, which themselves acknowledge that the timeframes contained within them are highly questionable and not likely to be met. The speed with which the Department has hurried this TMDL shows. The draft TMDL put out for public comment contained what are presumably errors with regard to the percent "views to sky" which were repeatedly noted as "0%." E.g., Table 1-2, TMDL at 1-4. There is no consistency between the waterbody segments covered in the TMDL and the WQMP (the WQMP includes Threemile Creek, from the headwaters to highway 205). Moreover, there is no explanation of why the TMDL covers eight listed segments in Table 1-1, among others in the TMDL, but lists a ninth segment -- Threemile Creek -- in Table 5-2, Interpretation of Active Eroding Stream Bank Allocations. TMDL at 5-4. In our opinion, the apparent absence of Threemile Creek from the TMDL, will require the future development of a TMDL for this segment.

We hereby incorporate by reference the comments of the National Wildlife Federation.

Finally, we question the wisdom of including the statement that this TMDL was "developed by the Oregon Department of Environmental Quality." TMDL at 1-1. It is fairly well known that EPA staff, not DEQ staff, prepared the analysis and this document. We recommend that every statement in this document be entirely truthful, so as to not impugn its entirety.

Sincerely,

Nina Bell  
Executive Director, Northwest Environmental Advocates  
and on behalf of:

Oregon Trout  
Northwest Environmental Defense Center