



AMERICAN FISHERIES SOCIETY

MONTANA CHAPTER

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Montana Department of Environmental Quality
Attn: Carole Mackin
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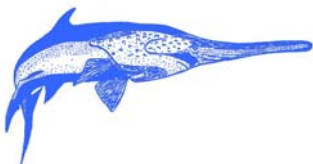
Dear Carole Mackin,

The Montana Chapter of the American Fisheries Society (MCAFS) appreciates the opportunity to comment on the Water Quality Assessment and TMDLs for the Dearborn River Planning Area. The MCAFS is an organization of professional fisheries scientists and students from multiple agencies, universities and the private sector across Montana. One of our objectives is the conservation, development and wise utilization of Montana's fisheries. We are extremely interested in the conservation of native and recreational fisheries in Montana, and we believe that the TMDL process is an important conservation and management strategy that protects critical fish populations and the habitats on which they depend. MCAFS has doubts as to the protection this plan will afford fisheries in the Dearborn and Missouri rivers.

The development of this TMDL document did not follow the typical pattern and method used on past TMDLs developed in Montana. In the past cases, a logical, orderly approach was employed where an initial, phase 1 assessment involved compilation and synthesis of available data, identification of data gaps, and development of quality assurance project plan (QAPP). The lack of the QAPP sets the stage for a technically poor plan that over extends the use of low-quality data. Field investigations directly related to the Dearborn River TMDL plan were negligible and apparently not guided by a QAPP or sampling and analysis plan (SAP), both of which are EPA requirements.

Reliance on pebble count data without any discussion of data quality objectives associated with these measures is not in accordance with EPA's guidance on data quality objectives. Pebble counts are a biased measure, particularly in estimating the finer gradations. In addition, this is most commonly used as a geomorphic measure. Studies applying this method to evaluate fine sediment stress typically train field observers to avoid the larger particle bias. There was no mention of training to reduce this type of bias. In addition, the document contains no discussion of the precision, accuracy, or representativeness of substrate conditions along the length of the Dearborn River.

The document over extends the appropriate use of the aerial photo analysis. Similar to other types of information used in this report, there is no discussion of data quality objectives. In other watersheds, assessments of aerial imagery are treated appropriately as a coarse screen that guides field sampling. It is



simply not credible to use aerial photo analyses without validating the results on the ground. Detecting eroding banks from aerial photos is easier when observing lateral bank migration, and much of the Dearborn is laterally confined; thus, this type of methodology would underestimate bank erosion.

Riparian measures consisted entirely of qualitative evaluations during the aerial photo assessments and a qualitative questionnaire with very low spatial coverage. As with other data presented in this document, there is no discussion of data quality objectives for these data. Qualitative questionnaires have high interobserver bias, and thus may not be reliable when eliminating probable causes of impairment.

We disagree with the conclusions regarding water temperature impacts in the Dearborn River, and recommend a reassessment of the impacts using more data. More historical water temperature data exist. To our knowledge Montana Fish, Wildlife and Parks has some long-term data (1997-2004), and the USGS likely has data for these sites in their archives. More data should be analyzed prior to making the decision that a TMDL for temperature is not required. The correlation between reduced stream flow and increased water temperature is undeniable, and a broader look at the cumulative effects of basin-wide irrigation withdrawals should be examined. In addition, the connection of riparian degradation in the tributaries and the downstream cumulative effect on water temperature in the mainstem Dearborn should be investigated and researched.

The negative effects of excessive fine sediments can impact much more than the forms of aquatic life examined in this document. Investigations on aquatic life were limited to algae and macroinvertebrates, and did not consider the various life-history stages of the many fish species. Excessive fine sediments have been documented to cause suffocation of salmonid eggs in redds, or to prevent emergence of newly hatched fish. In addition, excessive fine sediments (and related organic materials and nutrients) may increase habitat for tubifex worms—an intermediate host for the parasite that causes whirling disease—in turn increasing whirling disease infection levels in rainbow trout.

Although we agree that naturally occurring events (floods, forest fire, etc) have an impact on the form and function of lotic systems, we believe that anthropogenic impacts exacerbate the effects of these events. The anthropogenic influences can include more destructive fires (due to years of fire suppression and build up of fuels), less stable riverbanks due to land management activities, etc. Inferring that the events were natural and their damage unpreventable discounts the anthropogenic influences. Finally, we propose that many of the habitat survey results could have been influenced by the long-term drought in the Dearborn River basin, and suggest some discussion on these potential influences.

The Montana Chapter of the American Fisheries Society urges MDEQ to reinstate the TMDL process for the Dearborn planning area. We believe that many deficiencies need to be addressed with the current draft. Specifically, the development process should follow the pattern and procedures outlined by EPA, aerial survey data should be verified with field surveys, data limitations should be addressed, and the temperature problems in the main stem should be reevaluated with more data and a basin wide cumulative impact approach. Thank you for your interest and work toward conserving and improving Montana's aquatic natural resources.

Sincerely,

A handwritten signature in dark ink, reading "Clint Muhlfeld". The signature is written in a cursive style with a long horizontal flourish extending to the right.

Clint Muhlfeld, President
Montana Chapter of the American Fisheries Society

