



AMERICAN FISHERIES SOCIETY

MONTANA CHAPTER



Planning, Prevention, and Assistance
Montana Department of Environmental Quality
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June 9, 2009

Dear Mr. Pipp,

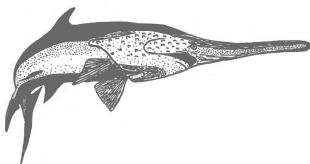
The Montana Chapter of the American Fisheries Society (MCAFS) appreciates this opportunity to comment on the *Draft 2008 Water Quality Integrated Report*. The MCAFS is an organization of over 300 professional fisheries scientists and students from multiple agencies and universities, and the private sector across Montana. We recognize the importance of the Clean Water Act in conserving Montana's fisheries, and understand the role the total maximum daily load (TMDL) process plays in restoring and maintaining the biological, chemical, and physical integrity of the nation's waters. Because the TMDL process has great potential to benefit fish, we are dedicated to seeing this process attain a high level of scientific merit, and meet the objectives of the Clean Water Act.

Given the scope and extent of the draft report, an extensive review of all determinations was infeasible; therefore, we restricted our review to evaluating DEQ's approach to addressing two categories of concern. First was an assessment of how DEQ addressed deficiencies the MCAFS previously identified when commenting on recently released TMDLs, including those developed for the Shields River and the lower Blackfoot River watersheds. Second, we reviewed those streams with low flow alterations listed among the probable causes of impairment to evaluate DEQ's approach in determining the impairment status of these streams.

In our comments on the TMDL plan developed for the Shields River watershed, we noted DEQ had not included nutrient data. Nor did DEQ report a variety of data collected through the TMDL planning process that would allow determination of impairment status for several tributaries: Elk Creek, Cottonwood Creek, Antelope Creek, and Rock Creek. In response to our inquiry regarding these missing data and blank data matrix sheets, you acknowledged that DEQ had "substantial data" within its internal files, but provided no rationale for not including these data in the 2008 review.

By omitting the "substantial data" available in DEQ's internal files from this biennial review, the department is not meeting its obligation under the Montana Water Quality Act (Mont. Code Ann. § 75-5-502[2]), which states:

In revising the list prepared pursuant to this section, the department shall use **all currently available data**, including information or data obtained from federal, state, and local agencies, private entities, or individuals with an interest in water quality protection (emphasis added).



Except as provided in subsection (6), the department may modify the list if there is sufficient credible data to support the modification.

The final 2008 water quality report should include the data within DEQ’s internal files. In addition, DEQ should review the decade of daily temperature data collected by the US Geological Service (USGS) at the gage station near the mouth of the Shields River. We alerted DEQ to the availability of these data in our comments on the Shields River watershed TMDL plan in July 2008, nine months before the release of the 2008 draft. As these data are available on the USGS’s National Water Information System website¹, DEQ should not have to rely on an outside entity to inform them of their existence and relevance. DEQ has the responsibility to identify and review all the currently available data as required by the Montana Water Quality Act.

Another concern emerged from your response to our inquiry about blank data matrix sheets for the Shields River. DEQ stated, “For the two waters in question the spreadsheet used for the last ‘true’ assessment was not the final version used for the 2000 list, and lacked the data matrix tab.” We are unclear on the distinction between a “true” assessment, and the biennial review. Does this mean that DEQ is not conducting a thorough review of newly available data for each biennial report? In the case of the Shields River, DEQ and FWP have collected a considerable amount of data on streams in the watershed since 2000; however, none of this information was incorporated into the assessment record sheets. This effort is the fourth opportunity DEQ had to compile and review newly collected data since the 2000 review, and to rectify the blank data matrix sheets.

In our review of dewatered streams, we uncovered several other streams with blank, or nearly blank data matrix sheets (Table 1). The data matrix sheets are critical in understanding DEQ’s rationale in making listing determinations. Moreover, if these sheets are blank because DEQ has not conducted a “true” review since 2000, DEQ is possibly not meeting its obligation in evaluating the current impairment of these waters. In addition, of the 228 assessment records we reviewed, none had an assessment date more recent than 2006, suggesting none of these waters experienced a “true” review during the 2008 review process.

Table 1: Waters with blank or nearly blank data matrix sheets.

<i>HUC Code</i>	<i>HUC Name</i>	<i>Stream</i>
17010201	Upper Clark Fork	Antelope
17010208	Flathead Lake	Ashley
17010205	Bitterroot	Bear
10070002	Upper Yellowstone	Big
10020004	Big Hole	Canyon
17010203	Blackfoot	Cottonwood
10030101	Upper Missouri	Deep
10020007	Madison	Hot Springs
10020008	Gallatin	Hyalite
10070002	Upper Yellowstone	Lower Deer
17010201	Upper Clark Fork	Modesty Creek
10020004	Upper Missouri	Moose Creek
17010204	Middle Clark Fork	Petty Creek
10070006	Clarks Fork Yellowstone	Rock Creek
10070006	Clarks Fork Yellowstone	Rock Creek
10070003	Shields	Shields River

¹ http://waterdata.usgs.gov/nwis/dv/?site_no=06195600&agency_cd=USGS&referred_module=sw

10070003	Shields	Shields River
17010210	Stillwater	Sinclair Creek
10070002	Upper Yellowstone	Six Mile Creek
10070002	Upper Yellowstone	Suce Creek
17010205	Bitterroot	Sweathouse Creek
10020004	Big Hole	Willow Creek
17010203	Blackfoot	Washington Creek
17010202	Flint-Rock	Upper Willow Creek
10070002	Upper Yellowstone	Upper Deer Creek
17010201	Upper Clark Fork	Threemile Creek

Additionally we are concerned with the completeness of the data used in making impairment determinations. In our comments on the lower Blackfoot River TMDLs, we noted DEQ's reference to STOREASE in its data matrix sheets and that there was no mention of STORET. STORET contains records of several thousand nutrient analyses collected on the Blackfoot River, which were not included in STOREASE. DEQ did not update the data matrix sheets on the lower Blackfoot River to reflect this extensive, more current data in compiling the draft 2008 report. This suggests the potential for the omission of data from the STORET database for other waters is likely. In our review of assessment records for dewatered streams, we found numerous streams where DEQ reviewed the STOREASE database, but no reference to the STORET, or ambiguous reference to EPA data reviewed (Table 2). In finalizing the 2008 water quality report, DEQ should ensure the available data from the STORET database is included in its impairment determinations.

Table 2: Waters listed with low flow alterations with reference to STOREASE, but no or ambiguous reference to the EPA data sources examined.

<i>HUC Code</i>	<i>HUC Name</i>	<i>Stream</i>
10030101	Upper Missouri	Avalanche
10030101	Upper Missouri	Battle
10030101	Upper Missouri	Beaver
10070002	Upper Yellowstone	Big
10020004	Big Hole	Big Hole
10020004	Big Hole	Big Hole
10020004	Big Hole	Big Hole
10070002	Upper Yellowstone	Big Timber
10020004	Big Hole	Birch
10030201	Two Medicine	Birch
10020002	Beaverhead	Blacktail Deer
10020006	Boulder	Boulder
10020006	Boulder	Boulder
10070002	Upper Yellowstone	Boulder
10020008	Gallatin	Camp
17010204	Upper Clark Fork	Clark Fork
17010201	Upper Clark Fork	Clark Fork
17010201	Upper Clark Fork	Clark Fork
10070006	Clarks Fork Yellowstone	Clarks Fork Yellowstone
10030101	Upper Missouri	Confederate Gulch
10020003	Ruby	Cottonwood
10030101	Upper Missouri	Crow
10030202	Cut Bank	Cut Bank
10030205	Teton	Deep
10030101	Upper Missouri	Dry

10070004	Upper Yellowstone-Lake	Duck Creek
10030201	Two Medicine	Dupuyer
10070002	Upper Yellowstone	East Boulder
10020008	Gallatin	East Gallatin
10030103	Smith	Elk
10040203	Flatwillow	Flatwillow
17010202	Flint-Rock	Flint
10050013	Frenchman	Frenchman
10020008	Gallatin	Gallatin
10020007	Madison	Hot Springs
10020003	Ruby	Indian
10020005	Jefferson	Jefferson
17010101	Upper Kootenai	Keeler
10020001	Red Rock	Medicine Lodge
10020003	Ruby	Mill
10070002	Upper Yellowstone	Mill
10070002	Upper Yellowstone	Mol Heron Creek
10040201	Upper Musselshell	Musselshell river
10040201	Upper Musselshell	Musselshell river
10040202	Middle Musselshell	Musselshell river
10040205	Lower Musselshell	Musselshell river
17010203	Blackfoot	Nevada Creek
10030103	Smith	Newlan Creek
10070008	Pryor	Pryor Creek
10070008	Pryor	Pryor Creek
17010201	Upper Clark fork	Racetrack Creek
10020003	Ruby	Ramshorn Creek
10070003	Shields	Rock Creek
10070006	Clarks Fork Yellowstone	Rock Creek
10070006	Clarks Fork Yellowstone	Rock Creek
10020003	Ruby	Ruby River
10030101	Upper Missouri	Sevenmile Creek
10070003	Shields	Shields River
10070003	Shields	Shields River
10070002	Upper Yellowstone	Six Mile Creek
10030103	Smith	Smith River
10030104	Smith	Smith River
10020005	Jefferson	South Boulder River
10020002	Beaverhead	Spring Creek
10020002	Beaverhead	Stone Creek
10070002	Upper Yellowstone	Suce Creek
17010101	Upper Kootenai	Swamp Creek
10020003	Ruby	Sweetwater Creek
10030101	Upper Missouri	Tenmile Creek
10030102	Upper Missouri	Tenmile Creek
10030205	Teton	Teton River
10030205	Teton	Teton River
17010201	Upper Clark Fork	Willow Creek
10070006	Clarks Fork Yellowstone	Willow Creek
10020005	Jefferson	Whitetail Creek
10030101	Upper Missouri	White Gulch
17010203	Blackfoot	Washington Creek
17010203	Blackfoot	Washington Creek
17010201	Upper Clark Fork	Warm Springs Creek

10080015	Lower Bighorn	Tullock Creek
10090102	Lower Tongue	Tongue River
10090102	Lower Tongue	Tongue River
10090101	Upper Tongue	Tongue River
10090101	Upper Tongue	Tongue River
10090101	Upper Tongue	Tongue River
10020001	Red Rock	Tom Creek
17010201	Upper Clark Fork	Tin Cup Joe Creek
17010205	Bitterroot	Threemile Creek
10030205	Teton	Teton Spring Creek

Although we did not specifically review the completeness of fisheries data in our review, we made numerous, incidental observations of the use of the Montana Rivers Information System (MRIS) or the interagency fisheries database as the sole FWP data examined. Similar to STOREASE, these databases are dated. FWP replaced the interagency fisheries database in the early 1990s with MRIS, and then replaced MRIS in the late 1990s with MFISH. In the course of conducting a “true” review, DEQ should ensure that the most recent database is incorporated into its status determinations.

Our evaluation of DEQ’s approach to reviewing and making decisions for dewatered streams identified several deficiencies that greatly limits the ability of the TMDL process to conserve Montana’s fisheries. The 303(d) database lists 228 waters with low flow alterations as a probable cause of impairment. The vast majority are cold water streams, with support of salmonid fishes being among the designated beneficial uses. Of these 228 waters, only 41, or 18%, were listed for thermal alterations.

A major deficiency we found in reviewing dewatered streams that lack thermal alterations as a listed cause of impairment was that in a large proportion of these streams (101 of the 228 streams), DEQ did not review any temperature data that would allow inference on thermal regime (Table 3). Furthermore, a substantial number of these streams support one or more native salmonid species of special concern. Thirty-two of these streams support westslope cutthroat trout (*Oncorhynchus clarki lewisii*), seven contain Yellowstone cutthroat trout (*Oncorhynchus clarki bouvieri*), another seven support the listed bull trout (*Salvelinus confluentus*), and five streams support Arctic grayling (*Thymallus arcticus*). Each of these sensitive species is a cold water stenotherm, and their ecological tolerances should be at the forefront of data reviews evaluating the potential for each stream to support sensitive species.

Table 3: Dewatered streams with no review of temperature data, and cold water species of special concern.

<i>HUC No.</i>	<i>HUC Name</i>	<i>Stream</i>	<i>WCT</i>	<i>YCT</i>	<i>Bull Trout</i>	<i>Grayling</i>
10030101	Upper Missouri	Avalanche	X			
10030101	Upper Missouri	Beaver	X			
10070002	Upper Yellowstone	Big Timber				
10020004	Big Hole	Birch				
10020007	Madison	Blaine Spring				
17010205	Bitterroot	Blodgett	X		X	
10070002	Upper Yellowstone	Boulder				
10020004	Big Hole	California	X			
10020008	Gallatin	Camp				
10070004	Upper Yellowstone-Lake	Canyon				
17010204	Upper Clark Fork	Clark Fork				
17010201	Upper Clark Fork	Clark Fork				
17010201	Upper Clark Fork	Clark Fork				
10030101	Upper Missouri	Confederate Gulch	X			
17010101	Upper Kootenai	Cripple Horse	X			

10030101	Upper Missouri	Crow			
10030102	Upper Missouri-Dearborn	SF Dearborn			
10020004	Big Hole	Deep			X
10030205	Teton	Deep			
17010201	Upper Clark Fork	Dempsey			
10070004	Upper Yellowstone-Lake	Duck Creek		X	
10070002	Upper Yellowstone	East Boulder			
10070002	Upper Yellowstone	East Boulder			
17010210	Stillwater	East Fork Swift			
10020004	Big Hole	Fishtrap			X
10040203	Flatwillow	Flatwillow			
17010202	Flint-Rock	Flint			
17010203	Blackfoot	Frazier	X		
10050013	Frenchman	Frenchman			
17010203	Blackfoot	Gallagher	X		
10020008	Gallatin	Gallatin			
17010201	Upper Clark Fork	Gold			
10020004	Big Hole	Governor	X		X
10090101	Upper Tongue	Hanging Woman			
17010202	Flint-Rock	Harvey	X		X
10020005	Jefferson	Hells Canyon	X		
17010201	Upper Clark Fork	Hoover			
10020001	Red Rock	Horse Prairie Creek			
10020007	Madison	Hot Springs			
10020008	Gallatin	Hyalite			
10020007	Madison	Indian			
17010101	Upper Kootenai	Keeler	X		
17010204	Middle Clark Fork	Kennedy	X		
17010205	Bitterroot	Kootenai			
17010204	Middle Clark Fork	Little McCormick	X		
10050007	Lodge	Lodge			
17010205	Bitterroot	Lolo	X		X
17010201	Upper Clark Fork	Lost			
17010205	Bitterroot	Lost Horse	X		
10070002	Upper Yellowstone	Lower Deer		X	
10020006	Boulder	McCarthy			
10070002	Upper Yellowstone	Mill		X	
17010201	Upper Clark Fork	Mill	X		X
10040201	Upper Musselshell	Musselshell River			
10040202	Middle Musselshell	Musselshell River			
10040205	Lower Musselshell	Musselshell River			
17010203	Blackfoot	Nevada Creek			
17010204	Middle Clark Fork	Ninemile Creek	X		
10070002	Upper Yellowstone	Pine Creek		X	
17010201	Upper Clark fork	Racetrack Creek	X		X
10020007	Madison	Red Canyon Creek	X	X	
10020004	Big Hole	Rock Creek			
10020004	Big Hole	Ruby Creek			
10020007	Madison	Ruby Creek	X		
10030101	Upper Missouri	Sevenmile Creek			
10070003	Shields	Shields River		X	
10070003	Shields	Shields River		X	
17010201	Upper Clark Fork	Snowshoe Creek	X		
10020005	Jefferson	South Boulder River			

10020008	Gallatin	South Cottonwood Creek		
17010205	Bitterroot	South Fork Lolo Creek	X	X
10030101	Upper Missouri	Spring Creek		
10020004	Big Hole	Steel Creek	X	X
10020002	Beaverhead	Stone Creek	X	
17010205	Bitterroot	Sweathouse Creek		
10020004	Big Hole	Wise River		
17010201	Upper Clark Fork	Willow Creek	X	
10070006	Clarks Fork Yellowstone	Willow Creek		
10020004	Big Hole	Willow Creek		
10020005	Jefferson	Whitetail Creek		
17010210	Stillwater	West Fork Swift Creek	X	X
10020007	Madison	Watkins Creek	X	
17010203	Blackfoot	Washington Creek	X	
17010203	Blackfoot	Washington Creek		
17010203	Blackfoot	Warren Creek		
17010201	Upper Clark Fork	Warm Springs Creek		
17010201	Upper Clark Fork	Warm Springs Creek		
10020004	Big Hole	Warm Springs Creek		
17010202	Flint-Rock	Upper Willow Creek		
10070002	Upper Yellowstone	Upper Deer Creek		
10080015	Lower Bighorn	Tullock Creek	X	
10020004	Big Hole	Trapper Creek		
10090102	Lower Tongue	Tongue River		
10090102	Lower Tongue	Tongue River		
10090101	Upper Tongue	Tongue River		
10090101	Upper Tongue	Tongue River		
10020001	Red Rock	Tom Creek		X
17010201	Upper Clark Fork	Tin Cup Joe Creek		
17010205	Bitterroot	Threemile Creek	X	
17010201	Upper Clark Fork	Threemile Creek	X	
10030205	Teton	Teton River		

A number of streams listed in Table 3 have a sizeable record of temperature data collected at USGS gaging stations, yet DEQ did not include these data in their analyses. Notable among these is the Gallatin River, which we have highlighted in other comment letters detailing the insufficiency of DEQ's approach to addressing the role of dewatering in promoting unsuitable thermal regimes in many Montana streams. Our analysis of USGS data indicates temperatures in July and August frequently and substantially exceeded upper incipient lethal temperatures for cutthroat trout (Bear 2005), brown trout (Elliot 1981), and rainbow trout (Kaya 1978; Figure 1). In addition, recreational uses are not fully supported given the frequent occurrence of temperatures exceeding 73 °F, which triggers a fishing closure if sustained for more than three consecutive days. Before finalizing the 2008 list, DEQ should cross-reference dewatered streams against the USGS's National Water Information System, and include those data in its determinations.

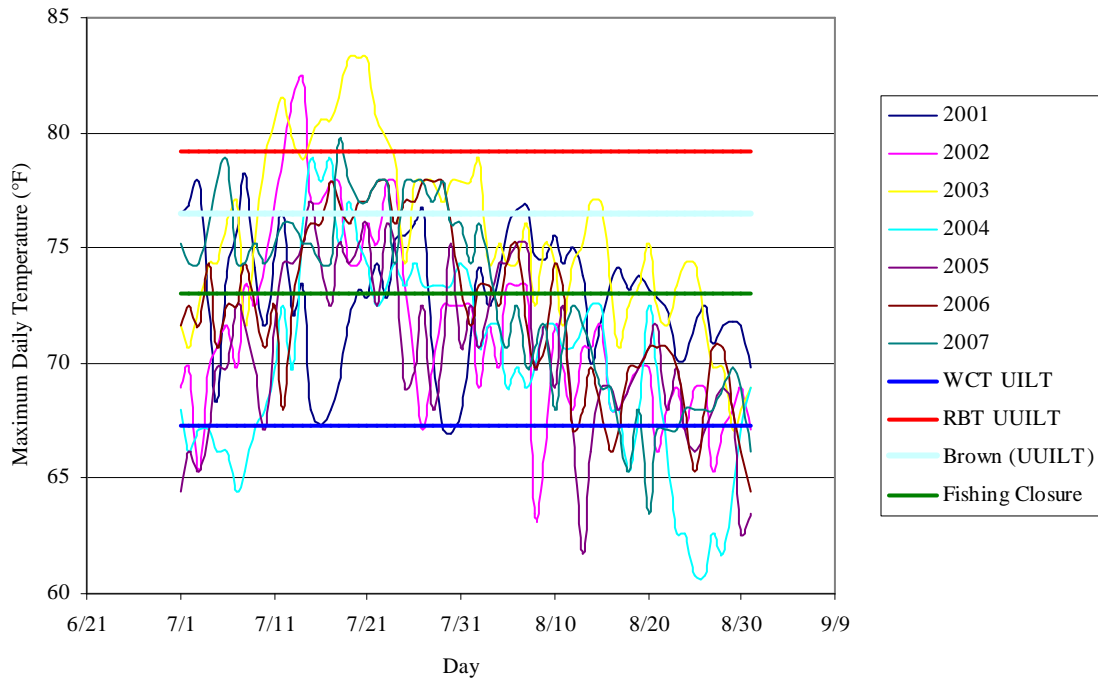


Figure 1: Maximum daily temperatures measured at the USGS gage on the Gallatin River

Among streams where DEQ did review temperature, we noted numerous deficiencies that limit the ability to evaluate if dewatering influenced thermal regime, or if high temperatures resulted in lethal or sub-lethal stress to sensitive fishes. Notably, in many cases, temperature data reported consisted of one or two readings, with no reference to date or time of day. Certainly, water temperatures taken on a September morning do not reflect the conditions a fish experiences on an August afternoon. For a majority of the reviewed data, DEQ did not provide information to evaluate seasonality or time of day for temperature readings. Our review did identify 58 waters with a minimal review of temperature data, but the data reviewed were insufficient to evaluate thermal regimes during critical periods (Table 4). Many of these streams support one or more salmonid species of special concern.

Table 4: Dewatered streams with a minimum of temperature data reviewed, limited synthesis of available data, and no listing for thermal alterations.

<i>HUC Code</i>	<i>HUC Name</i>	<i>Stream</i>	<i>Westslope</i>	<i>YCT</i>	<i>Bull Trout</i>	<i>Grayling</i>
10020007	Madison	Antelope	X			
17010201	Upper Clark Fork	Antelope				
17010208	Flathead Lake	Ashley				
10020001	Red Rock	Bean	X			
17010205	Bitterroot	Bear				
10020002	Beaverhead	Beaverhead				
10100004	Lower Yellowstone	Bennie Peer Creek				
10070002	Upper Yellowstone	Big		X		
10060006	Big Muddy	Big Muddy				
10020004	Big Hole	Birch	X			
10030201	Two Medicine	Birch				
17010203	Blackfoot	Blanchard	X		X	
17010202	Flint-Rock	Brewster	X		X	
10020004	Big Hole	Camp				

10020004	Big Hole	Canyon			
17010204	Middle Clark Fork	Cedar	X		X
17010204	Middle Clark Fork	Cedar	X		
10020005	Jefferson	Cherry			
10070003	Shields	Cottonwood		X	
17010203	Blackfoot	Cottonwood			
10030101	Upper Missouri	Deep			
17010202	Flint-Rock	Deep			
10020004	Big Hole	Doolittle			
17010204	Middle Clark Fork	Dry	X		X
10020002	Beaverhead	Dyce	X		
10020008	Gallatin	East Gallatin			
10020006	Boulder	Elkhorn			
10020005	Jefferson	Fish	X		
10040203	Flatwillow	Flatwillow			
10100004	Lower Yellowstone	Fox			
10020002	Beaverhead	Grasshopper	X		
10090101	Upper Tongue	Hanging Woman			
10020003	Ruby	Indian	X		
10020007	Madison	Jack			
17010203	Blackfoot	Jefferson	X		
10020004	Big Hole	Jerry	X		
10070005	Stillwater	Joe Hill			
17010204	Middle Clark Fork	Josephine	X		
10030101	Upper Missouri	Missouri River			
17010201	Upper Clark Fork	Modesty Creek			
10070002	Upper Yellowstone	Mol Heron Creek		X	
10020004	Upper Missouri	Moose Creek			
10040201	Upper Musselshell	Musselshell river			
10020004	Big Hole	Mussigbrod Creek			X
10020004	Big Hole	North Fork Big Hole			X
10020007	Madison	Meadow Creek		X	
10020005	Jefferson	North Willow Creek			
17010201	Upper Clark Fork	Peterson Creek	X		
17010203	Blackfoot	Poorman Creek	X		X
10070008	Pryor	Pryor Creek			
10070008	Pryor	Pryor Creek			
10020003	Ruby	Ramshorn Creek	X		
17010202	Flint-rock	Rattler Gulch			
10070003	Shields	Rock Creek		X	
10070006	Clarks Fork Yellowstone	Rock Creek			
10070006	Clarks Fork Yellowstone	Rock Creek			
10030101	Upper Missouri	Silver Creek	X		
17010210	Stillwater	Sinclair Creek			
10070002	Upper Yellowstone	Six Mile Creek			
17010205	Bitterroot	Skalkaho Creek	X		X
10030103	Smith	Smith River			
10020005	Jefferson	South Willow Creek			
10020002	Beaverhead	Spring Creek	X		
17010201	Upper Clark Fork	Storm Lake Creek	X		X
10070002	Upper Yellowstone	Suce Creek			
10020004	Big Hole	Swamp Creek			X
17010101	Upper Kootenai	Swamp Creek	X		
10030101	Upper Missouri	Tenmile Creek			

10030102	Upper Missouri	Tenmile Creek	
10030205	Teton	Teton River	
10030101	Upper Missouri	White Gulch	X
17010203	Blackfoot	Wales Creek	X
10090101	Upper Tongue	Tongue River	

A notable feature of the dewatered streams listed in Table 1 and 3 is that DEQ was not able to rule out thermal alterations in any of these streams. Nevertheless, given the links between dewatering and thermal alterations, a significant number of these waters likely experience water temperatures resulting in sub-lethal to lethal stress of sensitive fishes. Unfortunately, DEQ's current approach to TMDL development does not acknowledge these links, and DEQ limits its development of TMDLs to those with a temperature listing on the 1996 list, without proactively identifying thermally impaired streams. Streams for which temperature data were obviously neglected include the following:

- Canyon Creek in the upper Yellowstone River HUC,
- Crow Creek, a tributary to the Smith River,
- Deep Creek and Fishtrap Creek in the Big Hole River watershed, and
- Indian Creek in the Ruby River watershed.

Macroinvertebrate analyses provide another means to evaluate thermal alterations in streams. Data matrix sheets for numerous dewatered streams cited macroinvertebrate analyses indicating elevated water temperature. Despite biological evidence for warm water temperatures, DEQ did not list thermal alterations as a probable cause of impairment for several of these streams (Table 5). These include waters supporting sensitive westslope cutthroat trout and Arctic grayling. In addition, the Gallatin River, a stream we have highlighted in other sections describing the inadequacy of DEQ's approach to addressing temperature in dewatered streams, has a benthic fauna dominated by macroinvertebrates tolerant of warm water temperatures.

Table 5: Dewatered streams with no temperature listing, but where macroinvertebrate analyses indicated warm water temperatures.

<i>HUC Code</i>	<i>HUC Name</i>	<i>Stream</i>	<i>Westslope</i>	<i>YCT</i>	<i>Bull Trout</i>	<i>Grayling</i>
10060006	Big Muddy	Big Muddy				
10020007	Madison	Blaine Spring				
10020008	Gallatin	Camp				
10070002	Upper Yellowstone	East Boulder				
10020008	Gallatin	East Gallatin				
10100004	Lower Yellowstone	Fox				
10050013	Frenchman	Frenchman				
17010203	Blackfoot	Gallagher	X			
10020008	Gallatin	Gallatin				
10070005	Stillwater	Joe Hill				
10020004	Big Hole	Johnson	X			X
10030105	Belt	Little Belt	X			
10050007	Lodge	Lodge				
10020006	Boulder	McCarthy				
10040201	Upper Musselshell	Musselshell river				
10070008	Pryor	Pryor Creek				
10070008	Pryor	Pryor Creek				
17010202	Flint-rock	Rattler Gulch				
10030101	Upper Missouri	Sevenmile Creek				

10020001	Red Rock	Sheep Creek	
10020008	Gallatin	S Cottonwood	
10020002	Beaverhead	Spring Creek	X
10020004	Big Hole	Swamp Creek	
17010203	Blackfoot	Wales Creek	X

Another concern that emerged in our review was the use of an inappropriate reference for desired thermal regime in streams supporting westslope cutthroat trout. In evaluations of thermal regime in Indian and Wisconsin creeks in the Ruby River watershed, DEQ referred to thermal tolerances developed for rainbow trout and brook trout (*Salvelinus fontinalis*). These streams support pure westslope cutthroat trout, which are potentially more sensitive to warm water temperatures. DEQ should review temperature data with native species in mind, and ensure that the appropriate thermal tolerances are being applied in determining impairment status.

By ignoring the potential for dewatered streams to experience thermal alterations, DEQ is placing administrative concerns above attainment of designated uses. Interestingly, in 2001, the National Academy of Sciences (NAS) published *Assessing the TMDL Approach to Water Quality Management*, which cautioned against the focus on administrative rather than ecological outcomes. The NAS acknowledged that states cited strict time demands and limited budgets as factors resulting in an emphasis on administrative outcomes. Nonetheless, the success of the nation’s premier water quality program should be measured by attainment of the full array of beneficial uses, which must include evaluation of all potential stressors.

DEQ has cited its improved process in evaluating listed waters in focusing on listed pollutants, and ignoring types of “pollution” that contribute towards impairment. Although the sufficient, credible data requirements are a marked improvement over the relatively arbitrary approach used in compilation of the 1996 list, DEQ must acknowledge its limitations in evaluating impairment status of a given body of water. The criteria for sufficient, credible data provide a minimum screen for evaluating beneficial use support status, but these criteria do not necessarily allow evaluation of all potential causes of impairment. DEQ’s previous approach to evaluating the links between pollution (bank erosion, riparian degradation) and sediment as a pollutant provided an effective approach to addressing uncertainty with a limited data set. DEQ has apparently abandoned this common sense approach, with unfortunate consequences for Montana’s fisheries. We urge you to recognize the limitations of this approach and ensure a comprehensive approach to addressing impairment status of Montana’s waters.

A final concern relates to DEQ’s approach to requesting data from agencies and other entities. The integrated report indicates DEQ sent over 600 letters requesting data, but received only 3 responses. An informal poll of our members found none recalled receiving this data request, although many possess data they would like to see incorporated into the review process. A response rate of 0.5% suggests improvements in this component of the biennial review are warranted. Clarification of who is being sent request letters would be informative in determining how to improve response. The MCAFS would be happy to assist DEQ in promoting better response to data requests, as our members have considerable knowledge of available data and ecological status of Montana’s valuable aquatic ecosystems.

MCAFS realizes this type of data review and analyses is an arduous process and much good work has been done to develop this draft report. However, we feel there are some significant shortcomings regarding the use of data sources, or lack thereof, as well as assessment of impairments associated with reduced stream flows in many basins. In the future we hope that DEQ can do a better job of incorporating more of the most current data available into these types of assessments while keeping a sharp focus on the ecological requirements of Montana’s native aquatic species, particularly those

species of special concern. Attainment of a full array of beneficial uses should not be overshadowed by administrative objectives and concerns. Subsequent TMDL development should recognize the short comings in the review process that have been pointed out herein, and ensure that TMDLs are developed according to the court order and following a thorough review of all the data, including the most recent available. Please consider these comments as you move forward with additional drafts and analyses. We appreciate the opportunity to provide comment on this document.

Sincerely,

Dr. Carter G. Kruse
President
Montana Chapter of the American Fisheries Society

Literature Cited

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