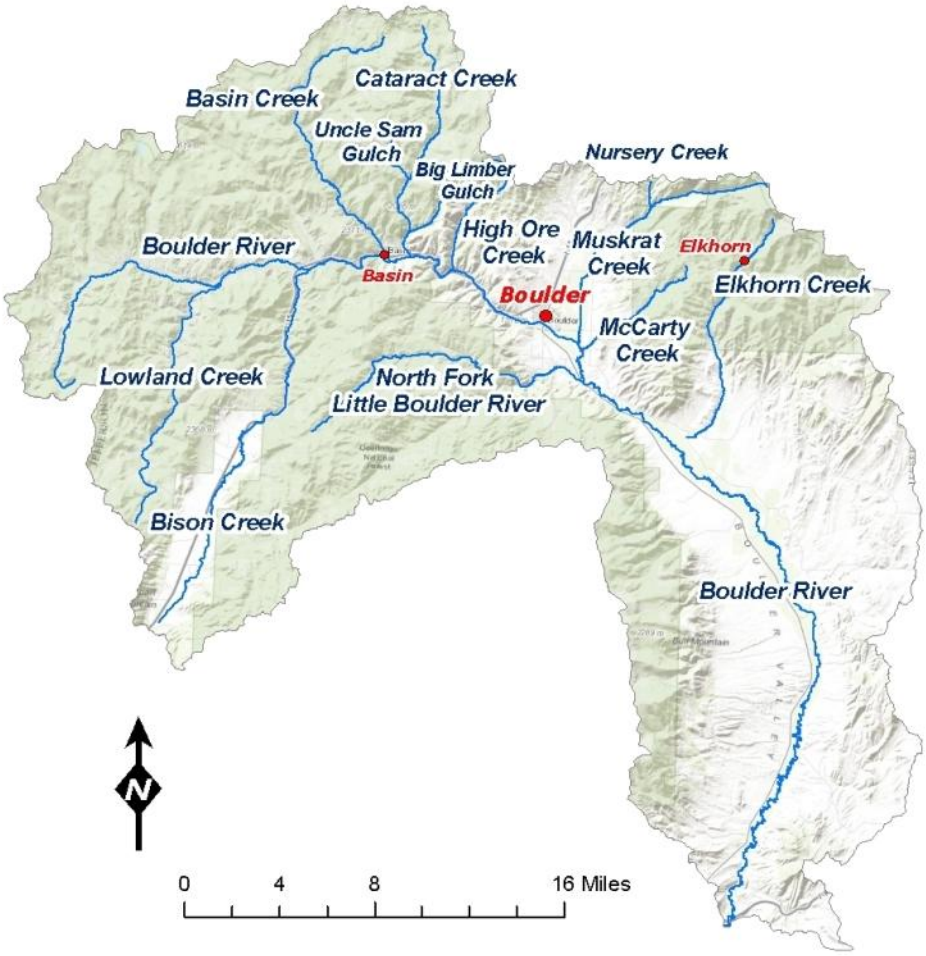
BOULDER – ELKHORN NUTRIENT, SEDIMENT, & TEMPERATURE TOTAL MAXIMUM DAILY LOAD (TMDL) PROJECT

June 27, 2013 Public Meeting
Jefferson County Courthouse, Boulder, MT

STREAMS INCLUDED IN THIS PROJECT:

- Basin Creek
- Bison Creek
- Boulder River
- Cataract Creek
- Elkhorn Creek
- High Ore Creek
- Little Boulder River
- Lowland Creek
- McCarty Creek
- Muskrat Creek
- North Fork Little Boulder River
- Nursery Creek
- Uncle Sam Gulch



TMDLs Written

Waterbody	Nutrient TMDL(s)	Sediment TMDL	Temperature TMDL
Basin Creek		X	
Bison Creek	X	X	
Boulder River* City of Boulder to the mouth (Jefferson Slough)		X	X
Cataract Creek		X	
Elkhorn Creek		X	
High Ore Creek		X	X
McCarty Creek	X	X	
Muskrat Creek		X	
North Fork Little Boulder River		X	
Nursery Creek	X	X	
Uncle Sam Gulch	X	X	
*The Boulder River is divided into four segments. Sediment and temperature TMDLs have been written for the bottom two segments; together, they span from the town of Boulder to the mouth where it joins the Jefferson Slough.			

Boulder — Elkhorn TMDL Project Website

http://montanatmdlflathead.pbworks.com
(Note that even though "Flathead" is included in the URL, this site contains multiple pages related to the Boulder-Elkhorn TMDLs)

What can be found on the site:

- Project description & overview
- Sampling plan documents & water quality data
- Pictures of water quality monitoring locations
- Project announcements & updates
- A copy of the public meeting presentation

Metals TMDLs

TMDLs for metals impairments were written for multiple streams in 2012. The "Boulder-Elkhorn Metals TMDLs and Framework Water Quality Improvement Plan" can be found on DEQ's webpage at:
http://deq.mt.gov/wqinfo/TMDL/finalReports.mcpx

Project Contacts

Christina Staten	Project Coordinator	cstaten@mt.gov	(406) 444-2836
Jim Bond	Sediment & Temperature Project Manager	jabond@mt.gov	(406) 444-3548
Lou Volpe	Nutrient Project Manager	lvolpe@mt.gov	(406) 444-6742
Ann McCauley	Technical Assistance for Restoration Projects	amccauley@mt.gov	(406) 444-9897

WHERE TO FIND THE DRAFT DOCUMENT & SUBMIT COMMENTS

The draft document is available on DEQ's website at: http://deq.mt.gov/pubcom.mcpx
Copies of the document are also available at the Boulder, Butte, and Helena public libraries and at the State Library in Helena.

Comments are being accepted until **5 p.m. Friday, July 12**. Comments may be submitted electronically at http://comment.cwaic.mt.gov/ or mailed to:

MT Dept. of Environmental Quality
PPA/WQPB
1520 E. Sixth Ave
PO Box 200901
Helena, MT 59620

DOCUMENT SECTIONS

More generalized and non-technical discussion of what can be done in the Boulder River watershed is concentrated in Sections 8, 9, and 10.

Section 1: Project Overview
Section 2: Boulder River Watershed Description
Section3: Montana Water Quality Standards
Section 4: Defining TMDLs and Their Components

Sections 5 - 7: Sediment, Temperature, & Nutrient TMDL Components (sequentially)
Each section includes (a) a discussion of the affected waterbodies and the pollutant's effect on designated beneficial uses, (b) the information sources and assessment methods used to evaluate stream health and pollutant source contributions, (c) water quality targets and existing water quality conditions, (d) the quantified pollutant loading from the identified sources, (e) the determined TMDL for each waterbody, (f) the allocations of the allowable pollutant load to the identified sources.

Section 8.0 Other Identified Issues or Concerns
Describes problems other than the identified pollutants (i.e., sediment, temperature, nutrients) that could potentially be contributing to water quality impairment and how the TMDLs in the document might address some of these concerns. This section also provides recommendations for combating these problems.

Section 9.0 Framework Water Quality Restoration Strategy
Discusses water quality restoration objectives and presents a framework for implementing a strategy to meet the objectives and TMDLs. This section provides land management recommendations and restoration approaches for each pollutant source (e.g., agriculture, timber harvest, unpaved roads, eroding streambanks, etc.). Sources of funding for restoration projects are also discussed.

Section 10.0 Monitoring Strategy and Adaptive Management
Describes a water quality monitoring plan for evaluating the long-term effectiveness of these TMDLs.

LAND MANAGEMENT PRACTICES THAT MAY IMPROVE WATER QUALITY IN THE BOULDER RIVER WATERSHED

Sections 8, 9, and 10 of the nutrient, sediment, and temperature TMDL document provide detail on suggested potential land management practices and restoration objectives. Information on metals restoration and funding is not included below, but is also in the document. The practices included here are general practices that have been successfully applied in other watersheds in Montana (not every practice may be feasible or applicable to the Boulder River watershed).

The practices described in this table may reduce amounts of nitrogen, phosphorus, and sediment reaching streams and rivers from streambank erosion, agricultural practices, timber harvest areas, unpaved roads, and septic systems. Many of the practices may also result in improved, healthier riparian areas that provide more shade and reduce stream temperatures. The table also includes suggestions for improving irrigation efficiency, for the purpose of increasing in-stream flow.

Riparian areas are vegetated zones or "green zones" along a stream, river, or lake.

Best Management Practice (BMP)	**Description**
Livestock Management	
Rotational Grazing (Livestock Distribution Improvements)	Timing (seasonal), frequency, and duration considerations. This includes limiting the time livestock spend in pastures with riparian areas, influencing the distribution of livestock within the targeted pasture, ensuring adequate residual vegetation cover, and providing adequate regrowth time and rest for plants. Development of a grazing management plan is needed for this BMP to be successful.
Salt & Mineral Block Placement	Use salt and mineral block placement to help distribute animals and reduce 'loafing' in riparian areas. Placement is recommended to be a minimum of a ¼ mile from the stream, but a half mile or greater provides better protection.
Feeding Stations & Shelter Fences	These practices help prevent livestock from 'loafing' in riparian areas and from using riparian areas for weather protection.
Off-Stream Watering	A permanent or portable device to provide an adequate amount and quality of drinking water for livestock. The device and its location should allow livestock to obtain water from a source other than a stream or river.
Riparian Fencing	Fencing used to permanently or temporarily control livestock access to riparian areas and wetlands. Total exclusion may not be feasible, and in these cases, water access points can be created.

Best Management Practice (BMP)	Description
Water Gap	A controlled access point from which livestock can obtain drinking water directly from a stream or river. Water gaps can provide access to water along reaches that are temporarily or permanently fenced.
Cropping Practices	
Cover Crop	Vegetation planted on what would otherwise be fallow ground. Designed to prevent mobilization and transport of pollutants by precipitation and overland flow during periods when the primary crop is unable or unavailable to perform a similar function.
Conservation Tillage	Tillage practices designed to prevent soil erosion and reduce surface or subsurface runoff potential. Practices may include no till, reduced or minimum till, strip till, direct seeding, mulch till, or ridge till.
Review Fertilizer Application Rates	Review application rates in terms of efficiency for crop requirements and uptake. Over application of fertilizer is more costly and allows nutrients to leach into groundwater or be carried into surface water via overland flow from precipitation.
Irrigation Practices	
Increase Irrigation Efficiency: • Install upgraded head gates for more exact control of diversion flow and to minimize leakage when not in operation • Upgrade ditches to increase conveyance efficiency (this could include installation of ditch linings, where appropriate) • Determine necessary diversion flows and timeframes that would reduce over-watering and improve forage quality and production • Review timing of irrigation (time of day) to reduce evaporative losses • Redesign or reconfigure irrigation systems, if warranted	
Other Practices	
Riparian Buffer	A strip of permanent native vegetation at least 30 feet wide between a waterway and agricultural field, timber harvest area, or other managed area. The buffer strip slows water reaching the stream from overland flow, acts as a filter to reduce the amount of sediment and nutrients entering the waterway, and reduces streambank erosion.
Eliminate Invasive (Noxious) Weeds	Native vegetation helps maintain stable streambanks and provide better filtering capabilities and soil water retention.
Septic System Maintenance	Regular inspection and pumping of your septic system.
Dirt/Gravel Road Repair & Maintenance	Divert water off roads into healthy vegetation before it enters the stream. The vegetation acts a filter to remove sediment and other pollutants.

Contact Ann McCauley for assistance with water quality restoration projects. There may be funding available to assist with your projects.

amccauley@mt.gov, (406) 444-9897

FUNDING & INFORMATION SOURCES (FUNDING PROGRAMS & RESPECTIVE CONTACTS ARE SUBJECT TO CHANGE)

Agency & Program [1]	Program Purpose	Who Can Apply [2]	Program Contact	Website
DEQ 319 Program Grants	Address nonpoint source water pollution.[3] Funds are available for restoration projects and water quality monitoring to evaluate effectiveness of the projects.	Governmental entities & 501c(3)	Robert Ray rray@mt.gov 406-444-5319 Ann McCauley amccauley@mt.gov 406-444-9897	http://www.deq.mt.gov/wqinfo/nonpoint/319Grants.mcpx http://montananps319grants.pbworks.com
DEQ Volunteer Monitoring Laboratory Analysis Assistance	Support voluntary water quality monitoring efforts. DEQ staff will assist in development of a required sampling & analysis plan.	Governmental entities & 501c(3)	Robert Ray rray@mt.gov 406-444-5319 Ann McCauley amccauley@mt.gov 406-444-9897	http://www.deq.mt.gov/wqinfo/nonpoint/nonpointsourceprogram.mcpx
DNRC Conservation District Grants	Grants may be used for technical assistance necessary to get projects going. Grants are also available for administrative expenses.	Conservation Districts	Laurie Zeller lzeller@mt.gov 406-444-6669	http://www.dnrc.mt.gov/cardd/ConservationDistricts/Default.asp
DNRC Range Improvement Loan Program	Fundable projects: fencing, seeding, stockwater development, & other range improvement practices. $75,000 loan limit with 3% interest for 10 years	Private Landowner	Larry Bloxsom lbloxsom@mt.gov 406-444-6686	http://www.dnrc.mt.gov/cardd/ConservationDistricts/RangeImprovements.asp
DNRC Loan & Grant Programs for Irrigation Development	Projects typically address increases in irrigation efficiencies through water conservation, expansion or sustaining irrigated acreage, increases in production of high-value crops, and improving management or irrigation systems	Private landowners, Private profit or non-profit entities, Governmental entities	Alice Stanley astanley@mt.gov 406-444-6687	http://www.dnrc.mt.gov/cardd/ResourceDevelopment/IrrigationDevelopment/default.asp

Agency & Program [1]	Program Purpose	Who Can Apply [2]	Program Contact	Website
DNRC Renewable Resource Loans	Loans for private water development projects. Irrigation system improvements are the most common type of projects funded.	Private landowners, Private entities including water user associations and ditch companies	Larry Bloxsom lbloxsom@mt.gov 406-444-6686	http://www.dnrc.mt.gov/cardd/ResourceDevelopment/PrivateLoans.asp
DNRC Renewable Resource Grants	Grants up to $100,000 per project or activity	Public entity such as a conservation district or irrigation district	See web link	http://www.dnrc.mt.gov/cardd/ResourceDevelopment/rrgp/RenewableGrantProgram.asp http://www.dnrc.mt.gov/cardd/ResourceDevelopment/IrrigationDevelopment/renew_resource_grants.asp
FWP Future Fisheries	Funding for on-the-ground projects that benefit wild fish. Examples include riparian fencing and off-stream water development, revegetation of streambanks, installation of screening devices on irrigation diversions, etc.	Anyone	Ron Spoon Fisheries Biologist rspoon@mt.gov 406-266-4237	http://fwp.mt.gov/fishAndWildlife/habitat/fish/futureFisheries/
NRCS Funding & Technical Assistance Programs	The NRCS has a variety of programs to provide financial and technical assistance to farmers, ranchers, and non-industrial private forest land owners for: conservation planning, land protection, and conservation projects.	Private landowners	District Conservationist: Joel Laliberty Joel.laliberty@mt.usda.gov	http://www.mt.nrcs.usda.gov/programs/

1. Definitions of Agency Abbreviations: DEQ = Dept. of Environmental Quality (Montana); DNRC = Dept. of Natural Resources & Conservation (Montana); FWP = Fish, Wildlife & Parks (Montana); NRCS = Natural Resources Conservation Service (USDA)
2. Governmental entities include conservation districts. 501c(3) organizations include watershed groups and other nonprofit organizations.
3. Nonpoint source pollution does not emanate from a specific point, but from a diffuse area such as agricultural fields, yards, and timber harvest areas. Common pollutants include sediment, nutrients, pesticides, pathogens, and petroleum products/oil.