

Upper Gallatin Total Maximum Daily Load Watershed Advisory Group and Technical Advisory Group Meeting

May 11, 2010 at 3pm.

Big Sky Water and Sewer District Community Room

Minutes

Attendees: Pete Schade and Lisa Kusnierz, Senior Watershed Planners from the Montana Department of Environmental Quality (MTDEQ), Ron Edwards, General Manager of Big Sky Water and Sewer District, Jon Holtzman, Chair of Blue Water Task Force (BWTF), and Kristin Gardner, Executive Director of BWTF.

1. *Overview of the TMDL Process:* Pete gave an overview of the TMDL process. The Federal Clean Water Act of 1972 mandated that each state develop Total Maximum Daily Loads (TMDLs) for water bodies on the State 303(d) list. The EPA is under court order to complete TMDL assessments for streams listed under the Montana's 1996 303(d) list by 2012. The MT DEQ is required to complete the TMDL assessments for each stream on the 303(d) list under state law MCA 75-5-703.

Each stream on the 303(d) list must go through a rigorous assessment to determine if the State should develop TMDLs. A TMDL is the maximum amount of a pollutant a river, stream or lake can receive and still support all designated use. TMDLs are based on water quality standards. A TMDL allocates a load to point and nonpoint sources and the sum of the loads cannot exceed the allowable load based on the water quality standard. TMDL assessments include: (1) sampling and monitoring streams; (2) evaluating data; (3) estimating loads from different sources and (4) allocating loads to each source.

Once draft TMDL documents have been completed, the BWTF will host a public meeting to discuss the documents during a 30-day public comment period, which Pete expects to be June 2010. Final TMDL documents will be sent to EPA for approval and will also be sent to elected officials

The practical application of TMDLs is that they are a process for identifying water quality problems and developing prescriptions for water quality improvements in order to meet in-stream standards.

2. What happens after the TMDL?
 - Develop watershed restoration plan – BWTF has a grant from the MTDEQ to develop a watershed restoration plan.

- MTDEQ Watershed Quality Protection section funds watershed restoration projects - priority is given to projects addressing problems noted in TMDLs. BWTF received a grant to study nutrients in the West Fork this summer.
 - 5 year review process – state reviews TMDLs and any progress to address the water quality problems discussed in the TMDL.
3. In the Upper Gallatin the following streams were assessed for potential TMDL development:
- West Fork of the Gallatin River: assessed for sediment, nutrients and e.coli
 - Middle Fork of the Gallatin River: assessed for sediment, nutrients, and e.coli
 - South Fork of the Gallatin River: assessed for sediment and nutrients and e.coli
4. Sediment TMDL Assessment:
- The sediment standard is narrative, meaning there is no numeric limit. During the TMDL development process for sediment, water quality targets are developed that provide a quantitative way to assess the degree of impairment for each 303(d) listed stream. In 2008, sediment and habitat assessment were conducted throughout the watershed to collect data to compare to the targets.
 - The sediment and habitat assessment found that the Middle Fork failed to meet target compliance upstream of Lake Levinsky, while there was borderline compliance for target South Fork and West Fork.
 - Source assessments were conducted to evaluate the current level of loading and reductions needed to meet the water quality standard. The major sources assessed included roads, culverts, upland and bank erosion, and stormwater associated with permitted construction activities.
 - Roads were found to be a significant source of sediment through traction sanding. The Montana Department of Transportation will be sent a copy of the TMDL assessments. Ron said that contractors clean up the sand in the meadow village in the spring. Jon suggested a training program for snowplow drivers to educate them on sanding practices that will minimize sediment transport to the stream.
 - Culverts: 13/17 failed for fish passage. 47% of culverts evaluated to withstand <25-year event.
 - The primary human sources of upland erosion are residential/resort development and the ski areas, and the main human sources of bank erosion are historic logging (particularly in the riparian zone), roads, and residential/resort development.
 - Overall, excess sediment is associated with historical land management practices and rapid land development.
 - TMDLs are being developed for the South Fork, Middle Fork, and West Fork

For more details on the assessment including data graphs go to the BWTF website: www.bluewatertaskforce.org/docs.php and look under “TMDL” for “Upper Gallatin WAG/TAG Meeting - May 11, 2010 – Sediment”

5. E.coli TMDL Assessment:

- Ecoli standard
 - i. April 1st – October 31st: geometric mean may not exceed 126 cfu/100mL and 10% of samples may not exceed 252 cfu/100mL during a 30-day period.
 - ii. November 1st – March 31st: geometric mean may not exceed 630 cfu/100mL and 10% of samples may not exceed 1260 cfu/100mL during a 30 day period.
- Summary of E.Coli assessments: E.coli was very variable across the West Fork watershed. Concentrations exceeded summer water quality standards but no consistent trends were seen at any particular site. Generally, higher concentrations were found in developed areas of mountain village than in reference streams (Beehive, North Fork, Hellroaring, and Swan). On the lower Middle Fork, one site downstream of a wetland complex consistently had a few high values. There were also few high values in the West Fork.
- The source of the high E.coli values is unclear and will be generalized as a combination of natural wildlife and “residential and recreational development”. E.coli TMDLs are being developed for the Middle Fork West Fork of the Gallatin.

For more details on the assessment including data graphs go to the BWTF website: www.bluewatertaskforce.org/docs.php and look under “TMDL” for “Upper Gallatin WAG/TAG Meeting - May 11, 2010 – Nutrients/E.coli”

6. Nutrient TMDL Assessment:

- Nutrient water quality criteria: “State surface waters must be free from substances attributable to municipal, industrial, agricultural practices or other discharges that will create conditions which produce undesirable aquatic life”
- Nutrient water quality target: July 15th – September 30th: 0.1 mg/L nitrate/nitrite, 0.03 mg/L total phosphorous, and 0.3 total nitrogen
- Summary of the Nutrient assessments: nitrate concentrations exceeded water quality criteria in the upper Middle Fork in mountain village and in the West Fork as the stream runs through meadow village between Two Moons Rd. and Little Coyote Rd. Algal growth exceeded the nutrient standard in the lower sections of the West Fork and South Fork.
 - Potential nitrate sources to the Mountain Village include septic wastewater, (septic and public sewer), stormwater runoff, land clearing, and fertilizer.
 - Potential nitrate sources to the Mountain Village: isotopic analysis indicated that there is a wastewater source to the West Fork between Two Moons and Little Coyote. Potential sources include: leaky sewer pipes, and golf course irrigation infrastructure or practices. BWTF will be conducting an extensive study in the meadow village area to further

define sources. Ron Edwards said he will try to earmark the meadow sewer lines to be videoed for potential sewer leaks. Taylor Middleton will address a few of the drains of the golf course, which drain into the West Fork.

- Nutrient TMDLs are being developed for the Middle Fork, West Fork, and South Fork.

For more details on the nitrate assessment including data graphs go to the BWTF website: www.bluewatertaskforce.org/docs.php and look under “TMDL” for “Upper Gallatin WAG/TAG Meeting - May 11, 2010 – Sediment”

For more information, please contact:

Pete Schade, Senior TMDL Planner
Montana Department of Environmental Quality
(406) 444-6771
PSchade@mt.gov

Lisa Kusnierz, Senior TMDL Planner
Montana Department of Environmental Quality
(406) 444-3658
lkusnierz@mt.gov

Kristin Gardner, Executive Director
Blue Water Task Force
(406)993-2519
kristin@bluewatertaskforce.org