Water Pollution Control Advisory Council (WPCAC) Meeting
November 6, 2008 ~ 10:00 a.m. – 3:35 p.m.
Room 111, Metcalf Building, Helena, Montana

Call to Order

Chairman Dude Tyler called the Water Pollution Control Advisory Council meeting to order on November 6, 2008, at 10:00 a.m.

Council Members Present: Dude Tyler (Chair), Earl Salley, Kathleen Williams, Trevor Selch, Michael Wendland, Roger Muggli, Karen Bucklin Sanchez, and Terry McLaughlin. Stevie Neuman joined by conference call.

Department of Environmental Quality (DEQ) Personnel Present: Bob Bukantis (Council Secretary) Water Quality Planning Bureau (WQPB), Planning, Prevention and Assistance Division (PPAD); Dean Yashan, WQPB, PPAD; Mike Suplee, WQPB, PPAD; Jenny Chambers, Water Protection Bureau (WPB), PCD; Andy Welch, WQPB, PPAD; Lisa Kusnierz, WQPB, PPAD; Bonnie Lovelace, Director's Office; Carrie Greeley, (Administrative Support) WQPB, PPAD.

A quorum was present.

Audience members included Amy Bamber, Department of Agriculture, Rosemary Rowe, EPA and Tina Laidlaw, EPA.

Bob Bukantis stated that John Bengochea was going to be resigning soon from the Council as he has taken another position.

Approval of Agenda

Dude asked for additions or changes to the agenda and none were requested. A motion was made and seconded to accept the agenda, and the motion carried.

Approval of Minutes

Dude asked for additions or changes to the minutes from May 1, 2008. Terry McLaughlin made a motion to approve the minutes and Michael Wendland seconded. The motion carried.

Numeric Nutrients Standards Update

Mike Suplee gave an update on the numeric nutrient standards. The nuisance algae public perception survey done a few years ago is now written up and available. This study helped provide the basis for the "threshold of harm" for the criteria. Mike can provide this document if anyone is interested. A white paper describing the scientific basis for the nutrient standards is going through a scientific peer review and will be going through a public review in the near future. The numeric nutrient standards are seasonal and we are looking at total nitrogen, nitrates and total phosphorus criteria. The standards would be in effect in the summer months from July 1 through September 30th. We are considering allowance of a 20 percent criterion exceedence rate. Outside of the summer months the standards would not be in effect, unless there is a

downstream consideration, for example for protection of a downstream lake such as Flathead Lake.

The question was asked if the standard be exceeded once during the time frame or can any sample set exceed by 20 percent? Mike stated it will be based on the overall data set which can exceed 20 percent periodically. Mike said this will all be explained in the documents that will be out on the website soon.

Concentrations vary by ecoregion. These have common water quality, riparian, soil types, weather and climatic conditions within each ecoregion.

Numbers for three critical areas:

- Northern Rockies will be the most restrictive criteria in the western part of the state and is also in an ecoregion that has large population centers. Total Phosphorus 0.012 mg/l, Total Nitrogen 0.23 mg/l, Nitrate 0.08 mg/l.
- Middle Rockies is the largest ecoregion in the state as far as land area in the western part of the state and larger than the other three western ecoregions put together and includes Helena and Dillon. Phosphorus 0.048 mg/l, Total Nitrogen 0.32 mg/l, and Nitrate 0.1 mg/L
- There are two eastern ecoregions with very similar numbers. Northwestern Great Plains, Phosphorus 0.12 mg/l, Total Nitrogen 1.36 mg/l, Total Nitrate 0.08 mg/l.

Prairie stream nitrate in the summer is almost non detectable. These eastern Montana streams are highly nitrogen limited systems. In the Western part of the state you see more phosphorus limitation.

These numbers are included in the scientific basis of the criteria paper that will be coming out by 11/19/08. This document has gone through peer review. We are in the process of making minor edits, but we should have it out by 11/19/08 for review.

We needed to look at both policy and implementation issues to make the standards workable. We are looking at a variance process for the criteria based on widespread and substantial economic impact for attempting to meet stringent criteria. We now have a draft bill to go to the 2009 legislature and essentially that bill says that the DEQ can approve and the Board can grant variances from the criteria based on either substantial or widespread economic impact. In other words an analysis that concluded it would cost too much to meet the standards or based on the limits of affordable treatment technology.

The question was asked: what was the first substantial variance. Mike responded substantial and widespread economic impacts and that is clean water act language and basically what it comes down to in a nutshell, is the water quality standards were never intended to be so stringent they would cause substantial economic impact to communities. So, if you adopt criteria there is a process whereby a variance for the standard can be allowed based on a demonstration that the community would have those impacts from attempting to meet the standards, and that's the process we're working on right now with our affordability group. The question was asked if it a department bill. Mike stated that it is a department bill to the legislature.

The question was asked if a variance was to be granted on the technology and then technology changes or becomes available, how would that work? Mike stated that they had talked to the engineers about that and what we're going to do is develop a new circular, it'll probably be circular 10 and the circular will contain the nutrient criteria that we just talked about, the period of application, and the regions of application. It would also be a place where we could house any of these variances that we're talking about, which would include the variance, who it applies to, which point source, what the extension period is, what the renewal period is, what the re-justification period is, and also what the current limit to the technology is, and because circulars can be updated. So for example, let's say in 5 yrs the new technology comes out, the engineers tell us that 3 milligrams per liter is no longer the limit of technology, and that it's now 1 or 2, we can update the circular. Everything is going to be set up so it'll update through time as the technology changes, because as we carry out more studies, collect more data from reference sites, and all the parts and pieces that lead to the criteria, those will update as all standards do.

The question was asked would a community be required to start saving money for when that technology becomes available in the future. Mike responded that so far we have not talked about affordability, and we have not talked about any possibility to force the community to save money to plan for the future, so I couldn't really address that. I can tell you one thing is that every 3-5 yrs the justification for the variance will be looked at. As the intent of a variance is that it would go for roughly 20 yrs, as that is the typical lifespan of a wastewater facility and it's also the typical financing period for which the community finances the system, so those mesh nicely with what people are planning for. However, EPA would require that states re-justify the variance every 3-5 years; you can't just put a variance on the books and say you're good for 20 years, you have to demonstrate a re-justification. Now if a very cheap technology came along, or a reasonably priced technology 5 or 10 years down the road, then the re-justification may end at that point. You may ask your community to go ahead and upgrade to that new technology, but if there was an extremely expensive new technology that might mean the equivalent of refinancing an entirely new wastewater facility, we probably would not because that wouldn't be a very good re-justification. Now when the variance comes to the 20 years, the whole process starts again.

Bonnie Lovelace asked that in the interest of a robust discussion what is the difference between industry and public variances. Mike stated the variance would not be exclusive to public treatment systems. We are refining an EPA designed process, which includes approaches for both public systems and for private. The private sector also has an evaluation process that EPA has developed; wherein, you can determine if private industry would have substantial and widespread economic impact as well. In terms of the rulemaking, yes, what we've been told by EPA, and our legal staff has reviewed this, each variance would have to be carried through rulemaking on a case by case basis. The time frame between when a person would come in compliance or not in compliance with these new standards and the point where they would begin to actually build a wastewater facility upgrade is quite a long time period, it takes years. So we will be able to, in that whole time frame, perhaps once or twice a year, bundle together a group of variances for rulemaking, bring them to this body, then bring them to the Board and they would move into the circular.

Terry questioned the concept of developing standards relative to non-existent federal standards, and asked if there were no federal standards for nitrogen or phosphorus in any form in federal

standards. Mike stated that human health based standards exist for nitrate, but they're way, way higher than what we're talking about here. There are no federal standards for total nitrogen and phosphorus, the state has "no more stringent standards than federal" language in law. EPA has 304(a) recommendations for nutrients that came out 8 yrs ago for criteria for the entire country for nitrogen, phosphorus and nitrate and also algae. The 304(a) recommendations are not standards. Are these criteria more stringent? Bob stated that these more specifically define the standards, setting it at the level of protection we're already required to set, that is to protect the use. Terry questioned whether the standards were more stringent and stated that he's hearing no. Response from Council member: No, not in all cases, the thing with nutrients is they're eco-region specific, we have some eco-regions where they are more stringent than federal recognizes, but in many cases, 80% or less of criteria are less than stringent. They took a conservative rather than scientifically sound base for their initial criteria.

Kathleen questioned if measurements are at the mixing zone or at the end of the pipe. Mike stated these would be ambient surface waters at the end of the mixing zone. Kathleen asked whether an important element is if they can meet these standards is what that mixing zone application is about. Mike stated that it was correct, and that's where the case by case variance comes in. If you have a discharge to a very large, relatively clean water body, and you're a small piece of that, then meeting the criteria might be quite easy. In other cases, you are the water body and this case is the other end of the spectrum, and where they have to meet the criteria virtually in the pipe and in many cases that is not technologically achievable. That's when they would be looking at limits of technology or affordability. Mike said that an effluent dominated flow is not uncommon; it's a real common problem in Montana and many western states. Kathleen stated that it's important that these be realistic and achievable, but it's also important that we provide incentives for technology to improve and be more affordable. How are you considering that balance in your variance development? Mike responded that it could be done a couple of ways, first if the standards are in place and they start to go in place nationally, state by state by state, that alone is a technological driver, because there is a lot of incentive to try to move the technology to the criteria. The fact of the matter is that every state person I've talked to at national meetings that has worked on this is coming up with criteria that are stringent. None of them are coming up with numbers that conveniently mesh with current or with secondary national numbers, they're all very low numbers. So as these go in place nationally, having them in place alone is taking a step in the right direction. In terms of the other aspect, the variance is considered the action of last resort. A step before that, which we have not talked about a great deal, is an approach to figure out if there's an alternative. An alternatives analysis will be carried out in every case to determine if there's a way that the discharge can meet the criteria, now this may involve things that we're just beginning to get our feet wet on, like trading and other factors. A compliance schedule is one possibility although I don't know if that would be a long term solution. The alternatives analysis is a place where you can try to address meeting the standard without granting the variances.

Terry had a general comment, I am a little bit surprised for the total phosphorus in the middle rockies, it was a little higher than what I expected it to be. The numbers are the numbers and ultimately we'll get to look at that from the peer review, but for the benefit of those here at the table who don't have to look at some of this stuff on a regular basis in terms of wastewater system treatment operations, there is a level of difficulty to try and meet total

nitrogen/phosphorus levels with existing technology. Technology at this time does not exist to take treated wastewater levels down this low. So, it's almost like we're going to have standards in place that, by and large, most of our smaller communities in the state will not, they cannot do it because the technology isn't there yet. My comment is that the driving force needs to be in place, but I sometimes wonder why we put something in place that nobody can actually meet and then we have to set up another program to excuse them from having to meet it to begin with. We're trying to achieve things that are unrealistic. If we adopt standards that are so restrictive all it does is put an extra burden on communities that have no hope of achieving it.

The question was asked what does a variance achieve in terms of water quality. Mike replied that it buys them time, and that's an important factor because the technology is rapidly changing. I went to a meeting a 1.5 years ago and the chief said that what we're seeing in terms of numbers today are already antiquated, it's just moving that quickly. I do want to make one correction on your statement, you are correct that meeting the nitrogen numbers are not achievable. These total phosphorus numbers, the middle rockies numbers, are quite achievable. In fact if you look at it, at the cost for total phosphorus treatments, the 0.05, is quite achievable this side of Helena, no problem end of fight. Terry said the he misspoke, he didn't mean to say we couldn't meet the phosphorus. Mike stated that the nitrogen is definitely the problem. There's no question about it. The limit to technology right now is about 3mg/liter total nitrogen and that's way higher in East Helena. So coming back to your question of why should we put this in place, is that wastewater facilities are only one piece of the puzzle. There are many things that could go on, on the ground to address best management practices for non-point sources. They can clean up the water even before it gets to the wastewater facility, in which case in some places sufficient dilution may then exist so they could meet the criteria. Also recall that about 80-90% of the required TMDLs, are on streams that do not have point sources, and they are also looking for the numbers that they need to use in their TMDLs. We tend to focus a lot on point sources; the point sources are the ones that get hit by the regulatory requirements, but there is a larger piece of the puzzle out there which includes a lot of non-point sources currently not being addressed because we'll keep going through this loop of we don't know which numbers to use.

Terry asked as part of what is out there in your peer review documents, is there any information that at least shows a cost comparison for the type of technologies. He also asked if indeed the advancements are coming as you say then is there a corresponding reduction in the cost per unit (cpu) volume treated, or do you know. Mike responded yes, we did. We had a consultant carry out an analysis, that was finished this last year, and they looked at cost for various treatment technology which focuses on nitrogen and phosphorus and from that we may be able to generate some cost curves like concentration and TP versus millions of dollars. What you see is a power curve where the cost to get from 2mg TP down to about 0.05 is a very rapid drop with a very small increase in cost. Then you get a huge tail where nitrogen, let's say 0.01 or some number like that. Terry commented that on the inflection point were those used in helping to derive these concentrations. Mike responded that the science and the beneficial uses drive the concentration; but, we have had a conversation in our affordability group, where we're leading to now, where we talked about what the limits of technology are. I got together with the engineers recently and we discussed what those are. I am going to be presenting three options to the group. One option, the limit to technology is to meet the criteria at the end of the pipe no matter the cost, that's not really realistic. The next question was what are practical waste water treatment technologies that

we can achieve that are at the limit of technology. Those right now are pushing about 0.05 TP and about 3 mg per liter TN. A third option, which the engineers did not say was their preferred option, is to really consider cost factors. So, when you bring that in, that inflection point is one of the factors we'll use. That is the limit to technology at a coarser level of treatment. Part of the purpose of the affordability group is to struggle with and help us get some public input on what those might be. Those are the three options in front of us with the engineers stating that they prefer the middle option, which is essentially treatment at the practical limit to technology.

Kathleen asked how are you going to package this with other initiatives to avoid doing this "piece meal". Mike responded this has come up many times. The variance procedure is one step in the direction of saying 'there is only so much you can ask of a community to improve water quality." The alternatives analysis will be looking for ways to clean up other problems that are out there. Kathleen commented that this needs to be packaged with other things being done to help it be accepted and work. Terry asked of there was a timetable set down to bring to the BER. Mike responded that the general plan is going to be brought before the 2009 legislature. If everything goes well, then rulemaking could potentially begin in 2009, he also stated that the nuts and bolts of the criteria are done. Bob said "being done" means it's just a draft and there are no rules yet in place. Mike affirmed this.

Mike briefly went over what's been going on in the affordability committee. Roger said that we missed the boat on this substantial and economically feasibility variance. He also stated that discharging in that state can negatively affect other beneficial uses. He used CBM as an example which went as using a financial variance which basically went if they can't pay just let them go if not economically available to meet the number. If the number doesn't affect anyone down stream is it ok? This is not economically feasible for CBM producers, all they need is an MPDES permit. However, this can cause problems with wording. This is where responsible use of water and substantial economic feasibility comes into play. He also stated that the wording scares him. Mike responded that the only thing he would point out that the criteria, while low, are set at a harm to use threshold. This is explained in the paper and it applies to both private and public. Terry questioned who does monitoring and at what type of frequency. Mike responded that they look at two things which are sample size to a minimum around 12. The monthly ideals for a large Waste water facility we are looking at 12 samples per compliance period. Those are 3 mos. of summer to measure nitrogen and phosphorus. Kathleen commented that the Bozeman Waste Water Treatment Facility has a report matrix that shows the cost to concentration ratio and offered Council members copies.

Rulemaking Update

Bob stated that he was going to give us a brief update on rulemakings that the Council has been involved with over the past couple of years:

The first one he went over was the Gallatin ORW- which was started by American Wildlands in a petition to the Board in December of 2001. The Board initiated rulemaking fall of 2006. Since March of last year, the board has extended the public comment period at about 6 month intervals; with the current period ending 4 January 2009. This is to encourage a consortium of local interests an opportunity to craft a local solution to protect the Gallatin.

Bob also brought up the DEQ-7 update and associated reclassification of 1 mile of the Marias River. This was approved by the board and adopted on 4/21/08. On 5/9/08 it was published and put in effect in the state law, on 5/21/08 it was submitted to EPA for approval. The EPA letter approved Conrad VAA/reclassification change. The DEQ-7 changes were also approved. EPA commended Montana for adopting the groundwater standards but declined approval since EPA has no authority for groundwater under the Clean Water Act.

Bob also brought up the New World Mine Temporary Water Quality Standards which he said was brought to WPCAC for review in 5/08 and then to the Board at their 30 May meeting. The Board decided to leave the temporary standards in place, consistent with the Council's recommendation. Terry asked about the time frame for the temporary water quality standards; Bob responded that they expire around 2012-2015.

Kathleen then asked what the status of the reuse standards were. Bob stated that he and Terry Campbell had just been talking about that and that there wasn't enough progress warrant an agenda item; however, DEQ did put together a group to push ahead, and expect to be able to report on more by the next meeting.

The group went for a break at 11:30 am and came back from break at 11:40

Montana Agricultural Chemical Ground Water Protection Act
-MACGWPA-

Amy Bamber presented an overview on the agricultural groundwater protection act in a PowerPoint Presentation. Amy started out by introducing herself, and mentioned that she knew Ann Harrie had gone through this subject before in November of 2007. Amy talked about the way pesticides are used, such as for noxious weed control. A question was asked if the wells used for testing were installed by their department. Amy responded that they weren't and were installed by contractors; 28-44 wells were installed by three different well drillers after a bidding process. The Bureau of Mines and Geology put some in before the bidding process was used, but is unsure of prior to that. Dude asked about shallow wells and pesticide effects. Amy responded that there are shallow wells that are between 30-80 ft deep and that some groundwater is impacted by pesticides. Dude asked if Amy was able to read the parts per million at her office or if she had to send someone into the field to read it. Amy responded that they test the wells in sections and they get tested at least twice a year. Amy responded that with the permanent monitoring wells they go out twice a year, early in the season and late in the season and every other week to test. She stated that she has two hydrologists who drive around the state grabbing water samples and checking water levels and temperature.

Amy stated that their main focus is on pesticides and fertilizers. Amy stated that they like to fill in with special projects, such as picking an area that they don't know a lot about except that there's a lot of pesticides used. They will work with landowners to determine the best area to start sampling. She said they do 3 surface water samples and 20+ groundwater samples. Amy stated that their first sampling project was in Yellowstone County which went from Sidney to Billings, then they did Gallatin county, next Beaverhead/Ruby, last year they did the Bitterroot and this year they picked up smaller projects like Flathead and Helena Valley. Clarification was

asked about herbicides if that also meant pesticides, pirethicides, and herbicides. Amy said yes, and that they are used for noxious weed control.

A question was asked about their statute; wherein, Amy responded that their statute is to protect groundwater from pesticides and contamination, looking at environmental impacts and human health levels to what the statute says. They also work under other additional statutes such as EPA statutes. Most of the sampling sites seem to be along rivers. Amy said that the reason their wells follow the river is because in Montana that's where the shallowest ground water is. In the middle of the state ground water is at 500' and shows the least amount of pesticides which is why they check along the rivers where ground water is shallow. It's a better use of the money to get more information. Amy then went on to say that all of the projects her group has done are on the web and went on to discuss that they're trying a new technique so they can do permanent monitoring wells and do very involved special projects.

Amy said that 10-15 yrs ago EPA started registering pyrethrides that greatly reduce human health risks, but are toxic to aquatic organisms. Amy stated that they did statewide sediment sampling of agriculture to test for pyrethrides, but did not find any, so they did more concentrated sediment sampling in the Missoula valley in June, that included golf courses and urban and agricultural areas. Nothing was found in those tests and the results for their second set haven't come in yet. Amy also brought up a new thing they're trying called Poceise which is a special type of canister where you put gel medium in the middle which picks up pesticides as water goes across it. The polar compounds then stick to the medium. She said that she put a lot of the Poceise around the golden triangle and they found pesticides that they had never seen before, like when they just did standard sampling.

Amy then went on to talk about how they're working with other interested parties who do not have the funding. This past year they worked with the Buffalo Rapid Irrigation District where they were doing BMPs to control nitrates, so Amy's team did a pesticide analysis to see how they could reduce their pesticide and nitrate usage up in the Glendive area. Her team has dug wells in the Lewis and Clark and Missoula County water quality districts; they have also worked with the Bozeman water quality district. Amy then stated that on the Lower Musselshell they did a salt cedar project, to see the impact on the water. Roger asked if Tordon was found in Musselshell. Amy responded no it was not normally found, but is mostly found in the enforcement area. Tordon is not used near water and there is a distance set back, but not a numeric setback. Amy also stated that Tordon is not as big a deal to her, all vegetation killers, like Roundup, are worse. A question was asked if potential health issues are a concern, which Amy stated is true. Amy also was talking about degradents, which result from the degrading of the original product. A question was asked if they would come and do samples on the water there were a fish kill. Amy stated that they would come down and do the samples for free. Amy then went on to say that 4-yrs ago they could take a sample and it would be clean, now every sample has something in it. Concentration and standards on sampling were discussed.

Amy stated that the reason we use standards is to measure environmental and human health risks. Amy stated that in our state we have a statute that says when we find something, we work with EPA to develop an interim standard for it. The statute then goes on to say that if the pesticide is at or above 50% human health standards, then we are mandated to develop a specific

management plan. The plan for that specific chemical starts with defining the area. After that, they work with other partners to figure out why the chemical is in the water, what can be done to get rid of it and then provide educational outreach to target people we know are using the water. If the levels in the water were still very high they would ban the use of that particular body of water. A question was asked about what atrazine was used for. Amy stated that it was an herbicide used for corn crops; so, it kills everything but corn, she also stated that it is the most used herbicide in the country. A question was then asked what her favorite pesticide was, wherein Amy responded spenocide which is biological but is pricey. Amy stated that the cheaper and older it is, the worse it is for the environment. Normally, you will get 6 yrs to use existing stock of bad pesticides. Dude had a comment about Fleshman creek by Livingston, because this past spring apparently an old meth factory was draining into Fleshman creek and killing all the trout. Amy said that she should have had that reported to her team from the EPA. Roger commented on how people always blame farmers for pesticides, and how, no matter what you are farming, pesticides are very expensive. Another point Roger wanted to make was the human application which means that if it's safe for people then it's safe for the environment.

Kathleen wanted to know if they had a plan to expand their program. Amy stated that they are going to increase their surface water monitoring and that they are going to be more proactive on nitrates in surface water. She would also like to get her hydrologists more up to speed on risk assessments.

Roger asked what the railroad is using to kill weeds. He said that he asked an operator if the chemicals they were using were environmentally safe and when the operator got back to him he said that they don't know what they're using because all the labels are X'd out. Amy stated that as for what the railroad is using on the west coast they contract it out, or they could be using, for the most part, what Roger, as a farmer, is using. She also said that it is illegal to spray without a label.

Kathleen asked if Amy and her team go beyond AG chemical and groundwater under some other authority or if there were gaps between what she does and what DEQ does. Amy responded that AG chemical means pesticide or fertilizer. She said that for the groundwater agricultural chemical act, she has talked to her supervisor about moving towards surface water. Terry had a question regarding monitoring, he wanted to know if they ever utilized data from public water supplies. Amy responded that they look closely at data and sampling and will include it in some reports.

The board broke for lunch at 12:35 and returned at 1:05.

TMDL Update

Dean Yashan is the Watershed Management Section Supervisor in Water Quality Planning Bureau. His group is referred to as the Total Maximum Daily Load (TMDL) Development Group and he has worked with the TMDL program for 8 years. Dean handed out a map and an educational handout to go with his presentation. The map and educational handout explains the status of the TMDL process. The St. Regis, Yaak and Little Blackfoot/Nevada Creek TMDLs were approved by the Environmental Protection Agency (EPA). Prospect Creek, Big Timber and Shields River are pending approval from EPA. Upper and North Fork Big Hole, Middle and

Lower Big Hole, and the Lower Blackfoot are in the process of being prepared for public comment. The top three barriers that inhibit the TMDL process is quality/quantity, stakeholder involvement and changes (from EPA and from the State).

Under the Clean Water Act (CWA), DEQ assesses the health of streams across the state to identify the pollutant problems limiting a beneficial use, such as sediment, excess nutrients, metals, and temperature. The streams with identified pollutants are included in the Integrated 305(b)/303(d) Water Quality Report. For each pollutant identified in the stream, DEQ attempts to determine the sources, natural or human-caused, and develops a TMDL to determine the total acceptable loading (how much pollutant the water body can hold). The amount of data is variable.

In 1999 there was a lawsuit that gave a completion date (originally 2007, currently 2012) for a certain number of TMDLs based on a listing date of 1996. Some problems have been resolved; however, more problems have been discovered. There are currently approximately 1,600 TMDLs to be developed by 2019. TMDLs are developed through a watershed approach, as is indicated on the map, into TMDL Planning Areas (TPAs). A TMDL is developed for each stream in the TPA. Usually, a TMDL is developed for the whole water body; however, some waterbodies are divided up into more manageable sizes. In addition, the TPAs may be modified and the TMDLs are adaptive.

There is a public process and a stakeholder process as described in the handout. The TMDL section does their best to identify the problems and solutions, get input on it, and hopefully have a period of implementation. Robert Ray's Watershed Protection Section becomes involved with implementation processes.

There are over 100 TMDLs submitted to EPA waiting for EPA approval. A document may contain numerous TMDLs or may only have one. About two-thirds of the work is focused on western Montana in the Upper Missouri and the Clark Fork, in part because there is a great deal of growth in the western part of the state.

TMDLs do not create any new authorities, regulations, or laws. They can assist with the enforcement of existing laws. A TMDL can be used as justification to drive a modification to a discharge permit. Most nonpoint source activities are voluntary in Montana, and the TMDLs deal with voluntary best management practices (BMP) implementation activities.

Earl Salley asked about the reservations on the TMDL map and if DEQ has access to the reservations. Dean stated that access can vary regardless of whether it is tribal land or not. The TMDL includes water body pollutant combinations within the boundaries of that TPA. However, to really see where the problems are coming from, the entire watershed needs to be examined and the full scope of the TMDL may extend into Canada and Wyoming. The TPAs are where Montana has responsibility for the pollutants. However, DEQ has no responsibility for pollutants within the boundaries of tribal lands.

Trevor Selch asked how DEQ determines the natural versus anthropogenic sources and how much is unknown. Also, what does DEQ do if the natural sources are greater than the criteria?

Dean stated that the water quality standards are narrative relating to naturally occurring levels, and TMDLs are not to correct natural causes. There is a process where the impairment determination is reconsidered in streams that are naturally polluted. A lot of information is available for Montana watersheds through modeling based on data from other states, the Forest Service, and other entities. In-stream data is collected, as well.

Michael asked about DEQ's status pertaining to the deadline to get the TMDLs done and if the first ones have been revisited as was the intent. Dean stated that this is going on to some extent. To help address that, Robert Ray's section is slated to do the 5-year review process.

Terry M. complimented Dean on the brochure. Dean stated a lot of time was spent in the creation and he feels it is informative. Kathleen asked if she could get some copies for the local watershed group in her community, and Dean stated he could provide her with some.

Terry M. stated that WPCAC has had TMDL presentations before, and asked if any members had questions. There is a big difference between TMDL development and TMDL implementation. Dude stated that many people in his industry are looking at TMDLs to assist with subdivision planning. Terry M. stated he anticipates conflicts between property rights and TMDL requirements, and the focus is going to be balancing the budget on the backs of point-source dischargers because the legislature has made nonpoint source activities voluntary. Montana has not seen court cases on this to date; however, he anticipates that TMDLs are going to be challenged by property owners. Earl added that this topic is both political and economic.

Kathleen asked about a voluntary TMDL becoming mandatory. Terry M. stated he was involved with a voluntary nutrient reduction program (VNRP) put together by the municipalities of Butte, Deer Lodge, Missoula and Smurfit Stone Container Mill. They obtained research on nitrogen and phosphorus targets (not standards) and worked out a VNRP with legal review to be sure it would meet federal requirements. The State of Montana did not have regulations at that time. That voluntary effort was accepted by the State and submitted to the EPA. EPA accepted it as a functional equivalent to a TMDL. They were given a 10-year window which will expire in August of 2009. Since then, the state has adopted regulations to govern TMDL implementation, and the VNRP's nutrient criteria were accepted as a standard. Stevie stated that the State will have to do something legislatively. She commented about subdivisions in her county that have wells and septic systems and that there are concerns about the runoff. Kathleen stated the watershed group in the Gallatin is working on proposed development guidelines for water-friendly development, which may be the first in the state, and she would be happy to share them with the group.

Clark Fork VNRP/TMDL: A Point Source Perspective-Terry McLaughlin

What is the issue in the Clark Fork? In the early 1980's the Smurfit-Stone Container Company was expanding its mill productions. They used the higher discharge flows to eliminate the treated waste water into the river. They requested to have a year round waste water discharge permit, and the citizens were objecting to the plant receiving the year round permit. The community was realizing that there were problems with the water quality in the area and started to complain.

There was algae growth that would break off and float down the river. The community thought the mill was responsible. It was at the mill's request to look into the water quality issues.

The Clark Fork Coalition was formed in 1985 in response to the water quality issues. Many good things have come from the development of the Clark Fork Coalition. In the 1980's was when it was determined that the Clark Fork River had a nuisance algae problem and that the water quality nutrient problems came into focus. The Congress added language to Section 525 of the Clean Water Act to direct the EPA to conduct a comprehensive water quality study in the basin and identify source of pollution. EPA funded the states of Montana, Idaho and Washington to study the nutrient issues in the water basin. The studies were conducted separately and then the three states combined the information in one Section 525 Report in 1993 to send to Congress. The 525 Report listed all of the water quality issues and a listing of management recommendations to deal with the Water Quality issues. The Tri-State Water Quality Council was developed that year. The Tri-State Water Quality Council is charged with implementing the changes to the water quality issues. The council's mission is to coordinate various implementation activities, build strong support for watershed management plan, develop timetables and implementation strategies and provides a forum for public input and support.

The Science Applications International Corporation (SAIC) report was unveiled at the time of the 1994 meeting of the Tri-State Water Quality Council and the DEQ. SAIC is an organization in South Carolina that does water quality research. SAIC looked at all of the data that came out of the algae testing and came up with recommendations on in-stream criteria for Nitrogen nitrogen and Phosphorus phosphorus to deal with the algae related issues. The SAIC suggested that the data indicated the best solution was to have only 300 parts per billion (ppb) total soluble inorganic Nitrogen and 6 ppb soluble reduced Phosphorus.

The stakeholders questioned the data and science and what was suggested. This is the first time they heard of TMDLs. A subcommittee was formed to work with the voluntary program for the implementation process. There was no process for TMDLs or nutrient standards for Phosphorus in place. No cost benefit analysis was done to help with the TMDL process. The watershed group pursued actions on a voluntary basis to get ahead in the TMDL process. The watershed contracted with Dr.'s Smith and Dodds from the Kansas State University to look at the data and they came back with a recommendation of the best procedures to control algae in the watershed. The recommendation was 350 ppb total Nitrogen and 46 ppb for total Phosphorus. Because of not having standards DEQ put the TMDL on the table. The major sources were doing their own research on the algae problem.

The Voluntary Nutrient Reduction Program (VNRP) was born out of the Subcommittee in 1994 to 1995. In 1995 the Tri-State Water Quality Council formally adopted the Voluntary program. It was agreed by vote to take the voluntary approach in lieu of the mandatory TMDL. Thru 1996 and 1997 the negotiations were continued to make decisions and also make sure that the work was legal when it came to the nutrient criteria. DEQ began their process to develop a framework for the TMDL process in 1997 as well. In August 1998 DEQ and the VNRP signed a memorandum of understanding and the VNRP became a ten year program to control the Water Quality. The VNRP would look at ways to reduce the impact on the stream and improve the

water quality. DEQ submitted the VNRP to EPA in 1998 and was approved as a functional equivalent to a TMDL.

In 1999 the Legislature finally enacted the laws empowering the DEQ to develop the TMDL program for all of the water bodies that are on the 303(d) List. The VNRP was grandfathered in for the 10 year program. Tri-State Water Quality Council wanted to bring in the smaller communities to join with the program but the legislature said no. In 2000 the DEQ announced the decision to develop standards for nutrients. The Tri-State Water Quality Council started using the QUAL2E modeling program. In 2002 the state adopted the nutrient standards for surface water in the Clark Fork River Mainstem. DEQ used the same criteria in the standards as the VNRP. The VNRP says that Tri-State Water Quality council would make three-year progress reports on the project and submit the document to DEQ and EPA. This would show if the efforts from the VNRP would be effective.

Since 2005, the city of Butte has been issued a new permit and has new conditions on the permit because of the new standards. Deer Lodge has a new permit as well. The city of Missoula received their permit. The VNRP is not going to go forward as a program to reduce nutrients from Point Source Dischargers but will act as a guide to smaller communities on how to deal with nutrient problems. Butte established a Sod Farm to use the treated wastewater to grow sod (Formerly a sludge injection site). They have installed effluent lines to irrigate golf courses in the future. There are stormwater catch basins in Butte now. Butte implemented a phosphate detergent dam to remove phosphorus out of the system. Butte takes water from Silver Lake and brings it into Butte to augment the flow in the Clark Fork. Butte received funding from ARCO because they are a superfund site, which helped with some of the projects.

The city of Deer Lodge does not have a big budget and can't spend a lot of money on the removal of phosphorus. Grant-Kohrs Ranch has taken the treated waste water to irrigate the ranche's hay fields. It is a historical place so they can only use irrigation methods that were in place when the ranch was handed off to the Park Service. The agreement with Grant Kohrs Ranch is not a long term project. Missoula has done the most in the last ten years. Missoula built a new biological nutrient removal facility. Missoula has seen a dramatic drop in the nutrient levels in the waste water system. Missoula County wants to address the numerous sewer systems in the Missoula Valley by connecting the sewer systems to the City. The mill has been able to achieve an 85% drop in the nutrient levels being discharged. The mill does not discharge into the river during the summer. The mill has been researching additional nutrient removal systems. To put a DNR removal system in it would cost over $50 million dollars. Terry showed some graphs of the improvement of nutrient discharge in the Clark Fork River. There is still a downward trend even though there is a rise in development in the watershed area. The Tri-State Water Quality Council realizes that they need to keep going and not give up because there is still work to do. The nitrogen and phosphorus comes from processing wood at the Pulp Mill. At first, the industry was not aware of the impact to the river when they added nitrogen and phosphorus to the processing. If you would like more information on the projects you can go to www.tristatecouncil.org.

Roger asked if there is a reason why algae will grow on the upper reach of a river but not on the lower reach. Roger mentioned that the Tongue River this year there was no algae and you could

see the fish on the bottom, but below the dam it's thick algae. Terry answered was that sometimes geology attributes to where the algae will grow. There may be uptake going on in the river so that by the time the water is going downstream the nutrients wear off. Metals control algae. It is still a learning curve to figure out how nutrients affect algae growth.

Kathleen asked if they took a position on the water rights closures on the Clark Fork. Terry said they try not to interfere when it comes to water rights. The council looks at the larger scale of improvement. Small communities like Deer Lodge are a major contributor of nitrogen and phoshorus , but do not have enough money for technology for nutrient standards. The Ewling Brothers have a contract with the city of Anaconda to use the treated waste water for irrigation on the hay fields and are trying to work on an agreement with Butte for the use of their treated waste water. Montana needs to take cautious steps when they look at water rights and how it affects water quality. The council wants to focus on education for the municipal governments on zoning requirements and regulations to prevent nutrient loading during the development process. Bonnie Lovelace said it was a good idea to move people from septic to waste water treatment plants in the future. Good planning in Tri-State group and VNRP. City county planning board can help plan for this and identify gaps in education, funding and technology.

The question was asked if the mill company ever changed its mind about financial support of the Council. The answer was no, because the boss wants the mill employees to be proactive in the watershed. The mill likes to get in the middle of the water quality issues because the employees live in the watershed as well. The bulk of the improvements at the mill has 80% in reductions in the processing, handling, and technology of raw materials or materials used.

General Public Comment on Water Pollution Control Issues-Dude Tyler

Dude Tyler asked if there was any public comment. There were no public comments to mention.

Review of Chair Position

Bob Bukantis explained that once a year, the Council is supposed to designate a chair for the next year. Jon Bengochea's seat on the council is vacant due to his taking a new position. The conservation organization seat is also empty on the council. Stevie nominated Dude Taylor for the council chairman position next year and it was seconded by Kathleen and Terry. The consensus was that Dude Taylor would be the Council chairman for the 2009 year. Terry said he was willing to do another term as vice chair. Kathleen said she would if Terry wasn't willing. Roger nominated Terry McLauglin to be the Vice Chairman again and the Kathleen seconded. The appointments are to serve at the pleasure of the Governor and so the appointments are indefinite until the time when either the Governor removes them off the council or the individual decides to remove themselves from the Council.

Roger mentioned that it can be hard to get the time to attend. Terry mentioned that the council always meets in Helena. Maybe once a year go somewhere else for the meeting such as Bozeman, Missoula or Miles City. Roger said if there was a time when the council could meet in Miles City, the council could take a tour of Twelve Mile Project. The project is finished and working properly. It has drastically improved the fish population.

Schedule 1st 2009 Meeting

Bob Bukantis proposed the date of January 8, 2009 for the first meeting. Karen could not attend. It was decided to do the meeting on January 7, 2009 so that everyone can make it. The other dates Bob proposed were the February 26, 2009, April 30, 2009, July 2, 2009, September 3, 2009 and November 5, 2009. Dude said July was going to be a bad month for him for scheduling and Terry said he could act as the chair at that meeting. The state holiday calendar was brought up so that meeting dates would not fall the designated holidays. Terry offered the motion to accept the dates and change them if necessary. Earl seconded the motion and the motion was accepted.

Agenda Items For Next Meeting

Since the legislature is going to be starting, the council should be briefed on any water quality issues that are going before the legislature. Nutrient variance was the only Department one. Bonnie said right now there is no other legislation proposed. Bob said they normally provide legislative updates. Kathleen asked if the Board looks at the minutes. Terry answered no, but the Department does and lets them know what we propose. If the Council makes a recommendation on water quality issues, DEQ lets the Board know what the Council has suggested. The Board depends on the Council to figure out some of the issues

Roger brought up coal bed methane (CBM) and that he would like to do a presentation at the next meeting on the affects of Coal Bed Methane on the farms in his area. Roger said that his fields are steadily declining in crop production due to CBM. There is no difference between the corn crops that were fertilized and the crops that were not fertilized. There was a sodium bicarbonate imbalance in the crops that is causing the fertilizer to not be effective. The alfalfa was only 10 inches tall and not worth cutting. The state needs to enforce the standards. There was supposed to be someone checking the SAR on the water to see what is causing the water quality issues. Terry said the Council is fundamentally an advisory council to the issues that are brought to the Board and as long as it's for informational purposes then that was fine, but they would be unable to request an action. Dude disagrees and wants a staff attorney's opinion. Roger asked if he did his presentation and then advocated to the Board could he do that. Bonnie suggested two ways to go about the process, go before the Board to propose a rule change or go before the Enforcement Division to challenge the permits and that the permit regulations are not working and file a complaint. This issue is going to be difficult to resolve. The Council may be able to advise the Department to move on this issue. Bob said the current standards that are on the books are currently being challenged in the court system right now. There was a report that DEQ had Montana State University put together on the soil collapse situation. Part of what was paid for was to evaluate current science to see if new research supported the EC and SAR standards. Roger says he feels the standards are good enough if the process was enforced. He said he did the bucket testing and measured the discharge and found that most pipes were over the permit limit. There is no one to check on the industry to make sure that they stick to the limits that are set in the permits. Roger's concern is lack of enforcement. Bonnie said we will make sure that there are DEQ representatives present for the presentation to make sure that all angles of the Coal Bed Methane issue is covered. Kathleen said she would like to learn more

about this issue and asked if Roger could provide the information even if the council can't take action.

Adjournment of the Meeting

Dude adjourned the meeting at 3:35 p.m.