DEQ Nutrient Work Group
8th Meeting Summary
March 15, 2010

Introductions
A list of the members of the Nutrient Work Group (NWG) and others in attendance is attached below as Appendix 1.

Agenda
$ Review of the January 21, 2010 Meeting Summary
$ DEQ Response to the Legal Questions/Issues
$ EPA Topics
$ Alternative Analysis Subcommittee Report
$ Yellowstone River Model
$ Land Application and Water Right Issues
$ Continued Discussion of the Economic Impacts of Numeric Nutrient Standards
$ Industry Economic Issues
$ NWG Work Plan
$ Public Comment
$ Next Meeting

Review of the January 21, 2010 Meeting Summary
NWG members present at this meeting had no comments on the January 21, 2010 meeting summary.

DEQ Response to the Legal Questions/Issues
At the January 21, 2010 meeting, NWG members identified three legal questions for the Department of Environmental Quality (DEQ). The three questions were:
$ What is DEQ's sense regarding legal challenges, perhaps under the Montana Constitution's clean and healthful provisions, to adoption of standards and variances?
$ Under state law, can Montana adopt numeric nutrient standards more stringent than federal requirements or guidance? Must there be a public health context for state standards to be more stringent than federal requirements or guidance?
$ How do economics figure into setting numeric nutrient standards?

DEQ attorney Claudia Massman was unable to attend this meeting, so the answer to the first question addressing legal challenges was postponed to a future meeting.

Dr. Mike Suplee answered the second question. He stated that he will present revised numeric nutrient standards at the NWG June meeting. He expects the revised standards will be higher (i.e., less stringent) than those DEQ has discussed with this group to date. Dr. Suplee also stated that DEQ believes that the issue raised in this question is moot because the numeric nutrient standards under consideration are less stringent than the two relevant EPA positions regarding numeric nutrient standards. In 2000, EPA issued guidance that was more stringent than most of the Montana numeric nutrient standards. Also, the proposed EPA standards for Florida are based

on a 75th percentile reference condition, while the Montana values were based on a 90th percentile reference condition. If EPA applied the 75% level in Montana, the resulting numeric nutrient standards would be more stringent than the levels DEQ is considering.

Comment - Neither the EPA 2000 guidance, nor the Florida levels are binding in Montana. No federal numeric nutrient standards are applicable here. Therefore, any numeric standard that DEQ adopts would be more stringent than applicable federal requirements or guidance.

George Mathieus passed out a memorandum explaining DEQ's position on the role of economic considerations in numeric nutrient standards. The content of this memo is included below in Appendix 2.

Comment - While I appreciate DEQ's clarification in the memo, some of us do not agree with its conclusion because of the language in SB95 which requires the consideration of economics in the basic numeric nutrient standards, not just in the variances from them.
Response - EPA is clear that it will not approve standards incorporating economics.

Comments - An alternative that we have not discussed is zero nutrient discharge.

Question - There are two aspects to the economic impact issue. One is associated with the specific level of the numeric nutrient standard. The other stems from the change from narrative to numeric standards. Has DEQ analyzed the latter?
Answer - As the NWG heard at its January meeting, Dr. Blend has begun an analysis of the economic impacts of numeric nutrient standards. His work is not completed, and he is unable to be here today. We will be making a presentation to the Environmental Quality Council on this topic at its July meeting.

Comment - In the past, economics was considered through technology standards.
Response - Effluent limit guidelines may be a part of the economic variance considerations for private entities.

Comment - We may get some help regarding technology based standards from the Montana courts in a coal bed methane decision.

Question by Gerald Mueller - I do not see a way to resolve a fundamental difference in the interpretation of requirements of SB95 regarding the role of economic impacts in setting nutrient standards. Statutory interpretation is generally the realm of the courts. If NWG members have a fundamental disagreement with DEQ about statutory requirements, should the group continue?
Answer by Don Quander - I am not asking to disengage this process and thrash out our difference with the department in the courts. I want to note that at the end of the day if the costs of the numeric nutrient standards are large compared to their benefits and if most dischargers believe that they will be unable to comply with the standards, then the standards would be problematic from a political perspective and we may push the economic impact arguments. I am interested in an interim or temporary standard that moves us towards improved water quality and would have benefits comparable to costs. The group should continue to discuss how variances would work in discharge permits and the broader economic impacts of standard levels.

EPA Topics

Two topics were identified for EPA for this meeting, the 1% median household income cap and the proposed rule for Florida numeric nutrient standards. EPA was not prepared to address the 1% cap at this meeting. Tina Laidlaw discussed the proposed Federal nutrient standards using a PowerPoint presentation entitled, "EPA's Proposed Water Quality Standards for Florida's Lakes and Flowing Waters, Establishing Numeric Nutrient Criteria, January 14, 2010." Ms. Laidlaw noted that the comment period on the proposed rule has been extended through April.

Question - For the Florida rule, does EPA specify a sampling methodology for a lake?
Answer - The State of Florida has a detailed assessment methodology for lakes. EPA does not propose one in the rule.

Question - Does DEQ have a lake sampling methodology?
Answer by Dr. Suplee - Yes. We have a depth integrated methodology for use during the summer. We can post a link to it on the NWG web page.

Comment - The proposed Florida rule sets standards that are not to be surpassed more than once in a three-year period as a long-term average. Please remind us what DEQ is proposing.
Response by Dr. Suplee - We are considering a 20% exceedance rate of the criteria - given a suitably sized dataset - for wadeable streams.
Response by Tina Laidlaw - Colorado is proposing a 1 in 3 year exceedance rate.

Question - Are non-point sources significant in Florida?
Answer by Lee Killinger - Most people think they are, so regulating only the point sources is problematic. Florida also experiences nutrient inflow from other states. On the subject of economics, they are not a factor is the setting of the nutrient standards in Florida. The issue is how we can comply with them.

Question - Is EPA considering a downstream protection value (DPV) for waters entering Florida?
Answer - I am not sure. We are waiting for the final rule.
Note: EPA has decided to delay finalizing promulgation of the "downstream protection values," or DPVs with respect to downstream estuary protection and to address this issue in the 2011 estuary and coastal rulemaking (see letter from EPA to Florida dated March 17, 2010)

Question - Will EPA set nutrient loads for streams flowing from Wyoming into Montana?
Answer - EPA has not decided how far downstream uses must be considered. We are looking a DPV to protect estuaries off of the Florida coast.
Answer by Mike Suplee - DEQ is not looking downstream in its current standard setting for water bodies. We are aware of SPARROW modeling of the Missouri, but upstream nutrient production is not a significant issue. Up and downstream issues would be addressed in TMDLs.

Comment - A Supreme Court decision may address this issue for south eastern Montana.

Question - Under the Florida proposal, if a lake meets the chlorophyll a criterion is met for three consecutive years, then the total nitrogen (TN) and total phosphorus (TP) criteria can be adjusted upwards within a prescribed range?

Answer - Yes.

Question - Is it correct that if the standards are based on a 20 ug/L chlorophyll a criterion and a 75 percentile of reference values, then 25% of the colored lakes will be out of compliance?
Answer - Yes, but the 20 ug/L level was based on more than the 75 percentile analysis. It was also based on historical, i.e. pre-anthropomorphic, values and modeling.

Question - For the 25% of lakes not in compliance, would a use attainability analysis (UAA) be conducted?
Answer - The waters would be considered impaired. A TMDL could be developed or a UAA is an option.

Question - Are standard variances used in Florida?
Answer - Yes.
Answer by Lee Killinger - Variances have been rare, and site specific criteria even rarer. We are not sure how nutrient variances would be addressed in discharge permits.

Question - Are concentrations specified by source of TN and TP?
Answer - This information is not a part of the rule package, and I don't have it today. Information about sources should be available. For example, the Bone Valley, which is a source of phosphorus for fertilizer and dry wall manufacturing, is naturally high in phosphorous.

Question - If non-points sources are significant contributors of nutrients, how will compliance be attained?
Answer - The restoration standard allows creativity and a watershed approach to nutrient standard compliance. Voluntary nutrient pollution trading could be a tool. We hope to get more people to the table using more tools. EPA will not regulate non-point sources. The restoration approach may allow interim targets, but they would have to be based on a solid rationale. Essentially, this approach would follow a TMDL-type approach.

Comment - EPA acknowledges but does not address non-point nutrient contribution.

Comment - This approach appears similar the temporary cleanup of mine wastes in Montana.

Question - Is the ultimate goal waters that are fishable and swimmable?
Answer - Goal setting would start with a UAA.

Question - Do economic impacts enter into the restoration standard analysis?
Answer - Economic impacts are considered in the UAA.

Question - What is the advantage of a UAA conducted under a restoration standard compared to the standard UAA?
Answer - The restoration approach would allow a phased implementation and phased numeric criteria linked to interim goals.

Question - What level of support is required for the restoration approach?

Answer by Lee Killinger - We are not sure, but it appears to be an expensive and data intense process.

Question - How will EPA and the state integrate landscape level restoration?
Answer - We don't know.

Question - Does the SPARROW model calculate the load reduction necessary to meet the standard?
Answer - Yes. It includes the background and point and non-point sources.

Question - Will basin scale load reductions be needed in Florida?
Answer – Likely but I don't know any details. TMDL has been completed for some watersheds in Florida.

Question - The restoration standard appears to be related to a water body rather than specific sources. How is a UAA conducted for multiple sources?
Answer by Bob Bukantis - DEQ's approach to the UAA is based on what use a water body is capable of supporting. It is independent of any discharge. We have two recent experiences with changes to a UAA. The classification was upgraded on Sage Creek, and downgraded from cold to warm water on a stream near Conrad.

Question - I understand how economics may fit into a variance for a single source. How would it be handled in the case of a dozen or more sources on one water body?
Answer - One of the benefits of restoration standards is to involve both nonpoint and point sources in solving the problem. An issue in the restoration approach is whether a point source will be left holding the bag if a non-point source or other point sources do not participate.

Question - Who starts the restoration process ball rolling, a permittee?
Answer - I am not sure how it will work in the final rule.

Comment - The advantage of the restoration process is allowing an interim standard not focused on individual sources to provide for incremental progress.
Response by Dr. Suplee - DEQ would also conduct a UAA to consider reducing beneficial water uses, but only after a twenty-year period of variances and TMDLs efforts to see if the water quality problem can be resolved. The restoration standard approach would conduct the UAA at the front end, but if a misstep occurs, then the usual process would apply.

Comment - You may reclassify a water body, but if it flows into another water body, you may still have to meet pre-reclassification levels.

Comment - process did not provide good assurance for facilities since, if a 5 year milestone is not met (and meeting it would need to involve nonpoint source), the stream standards revert back to the base numeric nutrient standards.
Comment - It would be useful to agree on an incremental approach.

Comment - We should remember that the Clean Water Act passed in 1972. After over 30 years, we are still discussing providing another 20 year compliance period. If this is the case, we should discuss a prevention rather than a treatment approach to discharges.

Alternative Analysis Subcommittee Report

Dr. Suplee passed out and discussed a schematic of the process for complying with the numeric nutrient standards, including an alternative analysis and temporary nutrient criteria, i.e., variances. The schematic is provided with this summary in a separate pdf document.

Question - How would variances be approached in DEQ permitting?
Answer by Jenny Chambers - We recognize that, even in the absence of numeric nutrient standards, we need to do a better job in the pre-application process and in our review of application content requirements. We intend to look one to two years ahead of a permit expiration to consider ambient water sampling, source characterization, receiving water conditions, and the standards that would apply.
Answer by George Mathieus - There are still nuances that we have to work through regarding the alternatives analysis and variances. The preliminary engineering report (PER) will play a role.

Comment by Jenny Chambers - The limit of technology (LOT) for nutrients is not reverse osmosis.

Question - In a discharge permit, how long is allowed to bring a discharger into standard compliance?
Answer by Jenny Chambers - We allow five years between permit renewals. A compliance period might include two renewal periods. However, the permit would specify milestones, and missing them would subject the discharger to penalties. Going beyond five years would require a formal compliance schedule.

Question - Do you anticipate that the trading policy will allow offsetting waste load allocations with trading?
Answer - Yes. We expect that trading will require at least 2-to-1 ratios. For example, a 50 pound waste allocation would have a 100 pound offset. Offsets would have to be guaranteed in permits.

Question - Has DEQ released a draft of the trading policy?
Answer - Not yet.

Question - Why try for a variance rather than a formal consent decree for a compliance schedule?
Answer - A compliance schedule would specify a 5 to 10 year period to achieve the standard. A variance is appropriate if the standard cannot be met with currently available technology and is expected to take longer than 5-10 years. The variance would allow time during which technology might catch up.

Question - How would the technology and affordability variances differ from a compliance schedule?

Answer by Jenny Chambers - A compliance schedule does not consider either affordability or technology. It merely allows time to achieve the standard.

Comment - The Spokane River TMDL specifies a 20-year compliance period, including an eight year period to achieve the next level of technology.
Response by Jenny Chambers - The compliance approach includes a lot of hooks such as milestones and progress studies. Compliance periods are used when meeting standards with existing technology by the end of the period is realistic.

Comment - The Spokane River TMDL used a consent decree to go beyond five years.
Response by Jenny Chambers - We try not to go beyond five years, but we may.

Question - How was the Mike Horse mine addressed?
Answer - DEQ created an opportunity to experiment with treatment technology.

Comment - Discharges still need permits even in the face of uncertain technology. We need a way to provide for improvements in both technology and water quality and allow a reassessment after a 10 to 20 year period.

Comment - The presentations we heard last December indicate that the technologies for treating industrial discharges are not significantly different than for municipal waste water plants.
Response - The treatment technologies may be similar but the approach to affordability variances may not be.

Question - Will the LOT change over time?
Answer - We expect that it would. DEQ will adopt the best nutrient standard in a circular that is reviewed and updated every three years.

Comment - The circular needs to address permit details such as the measurement, flow conditions, and exceedance frequency.

Comment - The circular should also specify the LOT.

Question - Can standards move up or down?
Answer - Yes. All water quality standards can do so.

Question - Is back sliding allowed?
Answer - No.

Question - SB95 specified a five year review of variances, but DEQ reviews water quality standards every three years. Do we need to change the statues so that the variance and standard review periods are the same three years?
Answer - No. We can begin the variance review process every three years without changing the statutes.

Question - What entities can appeal permit decisions, including compliance schedules?

Answer by Jenny Chambers - Only the applicant can appeal a permit decision to the Board of Environmental Review (BER). Third parties must appeal to district court.

Question - What about temporary nutrient criteria (variance) decisions?
Answer - DEQ rules can be appealed to the BER. I will check to see about the appeals to temporary nutrient criteria.

Comment - It will be useful to understand the differences in the appeal process for compliance schedules and variances.
Response by Jenny Chambers - Law suits over permit decisions including compliance schedules must be filed against the department. The permit shield would apply to permittees.

Question - If a community is in box #12, Remedy A (i.e., at LOT but still not manifesting substantial and widespread impact), will it have to spend any remaining amount necessary to reach the LOT on trading?
Answer - No. A community receiving an affordability variance must spend only up to that cap on nutrient treatment.

Yellowstone River Model

Kyle Flynn used a PowerPoint presentation entitled "Yellowstone River Nutrient Model" to discuss the model that he and Dr. Suplee have developed to set numeric nutrient standards for the Yellowstone River. This presentation will be available on the NWG web page.

Question - Does the model look at sediment delivery and constituents carried by sediment?
Answer - Yes.

Question - What reaches are considered in the model?
Answer - The model includes four reaches from Forsyth to Glendive. These reaches were used because no dams exist on them.

Question - Does the model address coal bed methane flows?
Answer - The model includes flow from the Tongue River at its confluence with the Yellowstone, so it addresses coal bed methane water flow to the extent that they affect Tongue River flows.

Question - What river flows were used to calibrate and validate the model?
Answer - Flows during the second week of August 2007 were used to calibrate, i.e. build, the model. These flows represent base flow conditions. It will be verified using flow and nutrient sampling from September 2007 - a dataset that was reserved for this specific purpose.

Comment - The flows during August 2007 were about half of normal.
Response - We used the August 2007 flows to model a period similar to that used for permits, roughly a 7Q10 flow basis, the average flow over a seven consecutive day period that occurs once every ten years. We were trying to avoid modeling to a flow condition that would result in nuisance algae every two years.

Comment - Last year, river flows were low, the river was clear, and we saw algae in the shallows.
Response - For standard development, we are interested in the low flow years when algae is likely to grow. Annual average flow conditions would not be sufficiently protective against algae growth in the river.

Question - How far upstream of Forsyth can the model be used?
Answer - We would not use it upstream. Conditions change at major tributaries. We may use it downstream.

Question - Do you plan to re-validate the model?
Answer - No. Collecting the data for another validation is too expensive.

Question - Nitrogen levels were limiting in the modeled reaches. Is this also true upstream?
Answer - Yes. The Yellowstone River today appears to be nitrogen limited.

Question - You want to manage the river to control nitrogen levels?
Answer - Yes. If we are able to control nitrogen adequately, then we might look at phosphorus levels.

Question - If you manage the river to control phosphorus would it still be nitrogen limited?
Answer - The river probably has some capacity to absorb nitrogen.

Comment - DEQ should seek to preserve this assimilative capacity.
Answer by Dr. Suplee - This will be addressed in the non-degradation review. As the river approaches its nitrogen limit, we risk driving it to a phosphorus limited condition.

Question - Does the model account for the inorganic fraction of nitrogen and phosphorus?
Answer - The model runs using inorganic fractions and can also simulate total nitrogen and total phosphorus.

Question - If you decrease turbidity, won't you increase light and hence algae production?
Answer - Yes. Algae production in the river is now light limited. If we decrease suspended solids, river productivity would increase. Below the Powder River confluence, not much can probably done to decrease turbidity because of the erodibility of soils in the Powder River drainage.

Comment - The implementation of a sediment TMDL on the Yakima River resulted in the growth of aquatic grasses.

Question - Can you determine the amount of nutrient resulting from natural processes and how much is due to agriculture and other anthropomorphic activities?
Answer - Yes. Part of the reason we can't directly apply the model to Billings is because of river clarity issues.
Question - Do you expect to set nutrient criteria using the model results in two months?
Answer - Yes.

Question - Where are you doing regarding other large rivers?
Answer by Dr. Suplee - As Mr. Flynn stated, our first step was to define a large river. An internal DEQ workgroup developed a list of large rivers based on flow and wadability indices used by the USGS. We are conducting modeling for the large rivers because we lack reference reaches and stressor-response nutrient studies for them. The order in which we are addressing the large rivers is determined in part by the TMDL work and other priorities. We will tackle the reach of the Missouri from Three Forks to the Canyon Ferry reservoir next.

Question - How much time and dollars will be required to address the other large rivers?
Answer by Dr. Suplee - Our process was slow and expensive at the start. We began work on the Yellowstone in 2006. In 2007 we collected data. We are completing the model this year. The cost so far has been in the $200-250 thousand range, not counting DEQ labor. We expect to complete the Missouri River model in two years or less.

Question - Did the $200-250 thousand include monitoring equipment?
Answer by Dr. Suplee - No. The monitoring equipment was purchased separately.

Question - What is the status of the Flathead River?
Answer by Ron Steg - We have collected data for three years, and are working on technical memoranda for the nutrient sources, such as storm water, septic systems, municipal treatment plants, etc. We should have a source-response model in a matter of months.

Question - Presuming we have a validated model, what additional sampling would be needed to develop temporary criteria for a half a dozen specific point sources?
Answer by Dr. Suplee - We would use the same processes for the technology and affordability variances as for wadeable streams. We would use the model without additional data collection.

Question - For wadeable streams, you developed criteria using more than one approach. Will you use information in addition to the model for large rivers?
Answer by Dr. Suplee - The model contains several factors such as dissolved oxygen, and so we can simultaneously look at various endpoints that would lead to a nutrient criterion. We would also compare the results to any other viable criteria values that may apply.

Land Application and Water Right Issues

Paul LaVigne initiated the discussion of this topic. He stated that DEQ staff met with Terri McLaughlin, DNRC Water Rights Bureau Chief, and Kim Overcast, New Appropriations Manager in the DRNC Water Rights Bureau, to discuss the water right implications of land application of sewage treatment plant effluent. Mr. LaVigne stated his understanding that no water right permit is required for land application so long as the community owning the treatment plant retains control of the effluent.

Terri McLaughlin reviewed DNRC's history with addressing the water rights implications of the land application of sewage treatment plant effluent. In 1996, DNRC issued a declaratory ruling that the City of Deer Lodge did not require a water right to land apply its treatment plant effluent. Ms. McLaughlin stated that this ruling holds as long as the land application is part of a DEQ approved treatment plan.

Question - Farmer A wants to use the treatment plant effluent to spray irrigate her or his land using a center pivot. Is a water right needed?
Answer by Terri McLaughlin - No water right would be needed as long as Farmer A has a contract with the city to land apply the effluent as a part of a DEQ approved treatment plan.

Question - The City of Deer Lodge was land applying the effluent within is place of use under its existing water right. Would a water right have been required if the City applied the effluent outside of its designated place of use?
Answer - No. As long as the effluent is under the control of the city and is part of a DEQ approved treatment plan, no water right is required.

Question - If DEQ does not issue a formal discharge permit, would a water right be required?
Answer by Terri McLaughlin - DEQ must approve the treatment plan in some manner, not necessarily through a discharge permit.

Question - If an industrial facility wants to land apply its treated effluent, it can do so without a water right, if the land application is included in its DEQ permit?
Answer by Terri McLaughlin - Yes.

Comment by Paul LaVigne - DEQ is working on a land application policy.

Question - Total retention of sewage treatment effluent does not require a DEQ discharge permit. If a city uses total retention as a part of its DEQ approved treatment plan, no water right is required?
Answer by Terri McLaughlin - Correct.

Question - What about the situation in which a private company uses the water from a treatment plant to grow algae?
Answer by Terri McLaughlin - If the use is not a part of the DEQ approved treatment plan, then the use would constitute a new beneficial use and would require a water right.

Question - Can downstream water users make a call of sewage treatment plant effluent water?
Answer by Terri McLaughlin - If the effluent is part of a DEQ approved treatment plan, then it cannot be called.

Question - Have there been any legal challenges to the DNRC declaratory ruling?
Answer by Terri McLaughlin - I do not know of any.

Question - What about return flow? Can a downstream water user make a call on return flow?
Answer by Terri McLaughlin - Irrigation return flow is callable. What we consider wastewater from municipal effluent is not callable.

Comment - Thank you to Ms. McLaughlin and Mr. Ferch for coming today and providing this explanation.

Economic Impacts of Numeric Nutrient Standards

Because Dr. Blend was unable to attend today's meeting, discussion of this topic will be postponed until the next meeting.

Industry Economic Issues

Don Quander stated that a subcommittee tasked with developing a proposal for an affordability variance for private entities has not been formed. If one is to form, DEQ will have to appoint it. He also stated that the public entity affordability variance based on a median income will not be relevant to private entities and that he would be wary of any attempt to base a variance on private entity revenues or profitability. Mr. Quander's consultations with industry representatives indicate that they need a proposal to which they can react.

Comment by George Mathieus - DEQ will appoint a committee and will develop a proposed private entity affordability for the committee to consider. We will strive to have the committee's reaction prior to the May meeting of the NWG.

NWG Work Plan

Gerald Mueller stated that three additional meetings of this group are currently scheduled on May 20, June 16, and September 16. The topics for these meetings will include: DEQ's revisions to the numeric nutrient standard levels, EPA's response to the 1% median household income cap for the public entity affordability variance, the private entity affordability variance, the nutrient trading policy, and the analysis of the economic impacts of the numeric nutrient standards.

Public Comment

There was no additional public comment.

Next Meeting

The next meeting is scheduled for Thursday, May 20, 2010 in the DEQ Director's Conference Room in the Metcalf Building in Helena. The agenda may include:

- $ EPA's view of the 1% MHI affordability cap;
- $ Continued discussion of the economic impacts of the numeric nutrient standards; and
- $ An update from the committee considering a proposal for affordability criteria for private entities.

Appendix 1
NWG Attendance List
March 15, 2010

Members

Jim Edgcomb	Montana Department of Commerce
John Wilson	City of Whitefish/Montana League of Cities and Towns
Dick Hoehne	Town of Philipsburg/Montana League of Cities and Towns
Donald Quander	Holland & Hart/Montana Petroleum Association
Michael Perrodin	BNSF Railway
Don Allen	Western Environmental Trade Association (WETA)
Jim Jensen	Montana Environmental Information Center
Chris Brick	Clark Fork Coalition
Scott Murphy	Morrison-Maierly, Inc.
Brian Sugden	Plum Creek
John Rundquist	City of Helena
Ryan Swinney	Bruce Swinney & Associates
Jeff Tiberi	Conservation Districts

Alternate Members

Kate Miller	Montana Department of Commerce/Treasure State Endowment (alternate for Jim Edgcomb)
Doug Parker	Hydrometrics (alternate for Debbie Shea)

Non-Voting Members

Dr. Mike Suplee	DEQ, Water Quality Standards Section, Water Quality Specialist

Other Meeting Participants

Judel Buls	AE2S, Inc.
Mike Jacobson	City of Great Falls
Allen Kelm	City of Miles City
Ray Armstrong	DOWL HKM
Jessie Luther	Browning, Kaleczyc, Berry, and Hoven
Mark Simonich	Helena Association of Realtors
Dave Clark	HDR
Jenny Chambers	DEQ Water Protection Bureau Chief
Ron Steg	EPA
Tina Laidlaw	EPA
Amanda McInnis	HDR
Alan Towerton	City of Billings
Gary Swanly	Robert Peccia and Associates
Amy Bamber	Montana Department of Agriculture
George Mathieus	DEQ Planning, Prevention and Assistance Division
David Mumford	City of Billings

Bob Bukantis	DEQ, Water Quality Planning, Water Quality Standards Section Supervisor
Mark Bostrom	DEQ Water Quality Planning Bureau Chief
Paul LaVigne	DEQ, Technical and Financial Assistance, Water Pollution Control Revolving Fund Section Supervisor
Kyle Flynn	DEQ
Terri McLaughlin	DNRC Water Rights Bureau Chief
Jim Ferch	DNRC Water Rights Bureau
Lee Killinger	Florida attorney (via telephone)

Appendix 2

Montana Department of

ENVIRONMENTAL QUALITY MEMO

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To: Nutrient Work Group
CC: Richard Opper, Director, DEQ; John North, Chief Legal Counsel, DEQ
From: George Mathieus, Division Administrator, Planning, Prevention and Assistance Division
Date: 2/10/2010
RE: DEQ's position on the role of economic considerations in numeric nutrient standards

At the January 21, 2010 Nutrient Work Group (NWG) meeting, the NWG requested that DEQ clarify its position on where in the process of numeric nutrient standards development economics are to be considered. A second, related question posed by the NWG was what DEQ believes comprises an estimate of the economic impacts of adopting numeric nutrient standards. The intent of this memo is to clarify DEQ's position on both of these subjects. DEQ previously addressed the first topic in detail during the NWG meeting of June 18", 2009; what follows below (part 1) summarizes DEQ's position, which has not changed since that time.

1. Role of economic considerations in base numeric nutrient standards and temporary nutrient criteria.

Senate Bill 95, now codified at 75-5-313, MCA and definitions at 75-5-103, MCA, makes clear distinctions between "base numeric nutrient standards" and "temporary nutrient criteria". Base numeric nutrient standards are defined as "numeric water quality standards for nutrients in surface water that are adopted to protect the designated uses of a surface water body" (75-5-103 (2)(a), MCA). As defined base numeric water quality standards are, in fact, water quality *criteria;* this is consistent from both the state and federal viewpoint. Federal law requires that "states must adopt those water quality criteria that protect the designated use". Such criteria must be based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated use" (40 CFR 131.11).

EPA further clarified its position on this subject in a January 1999 final action letter to then-governor Marc Racicot (EPA reference No. 8EPR-EP), wherein it was stated that water quality criteria must be based on sound scientific rationale, and that economic considerations do not apply to numeric criteria. All water quality standards adopted by the state must be approved by EPA before they become effective, and EPA has already made clear that they would not approve water quality criteria which were derived using economic considerations (same January 1999 action letter). DEQ has consistently developed the base numeric nutrient standards using sound science, has not incorporated economic considerations, and is setting the criteria at levels which

protect the beneficial uses of state surface waters.

In contrast, temporary nutrient criteria must, by definition, incorporate economic considerations. They are defined as "numeric permit limits for nutrients that are based on a determination that the base numeric nutrient standards cannot be achieved by a particular point source discharger due to economic impacts or the limits of technology" (75-5-103(35), MCA). The intent of the temporary nutrient criteria is to allow time for dischargers to meet the base numeric nutrient standards, given that it is very likely that, overtime, treatment technologies will become both more effective and affordable. From the federal perspective, temporary nutrient criteria are equivalent to variances, and variances from water quality standards are allowed under federal law (40 CFR 131.13). EPA guidance to states *(Interim Economic Guidance for Water Quality Standards*, 1995) indicates that variances are preferred to removing designated uses (another option) when cost of compliance is an issue, because it encourages compliance with the Clean Water Act within a reasonable time frame.

Therefore, it is DEQ's position that base numeric nutrient standards must be set to protect the beneficial uses of state surface waters, are to be based on sound scientific rationale, and cannot incorporate cost-of-compliance (i.e., economic) considerations. Economic considerations can and must be considered, however, in the development of discharger-specific temporary nutrient criteria, which are in effect variances from the base numeric nutrient standards.

2. What DEQ believes comprises an estimate of the economic impacts of adopting numeric nutrient standards.

75-5-3l3(4)(c), MCA requires that DEQ, in consultation with the NWG, shall report to the legislature's Environmental Quality Council on the estimated economic impacts of implementing numeric nutrient standards. DEQ believes this requirement entails an analysis of both the costs and benefits of numeric nutrient standards, using available information and estimates. Costs, in this context, would measure estimated expenditures by the regulated community in moving towards the standards, while benefits would be quantified as the economic value realized from environmental benefits such as less nuisance algae, cleaner drinking water supplies, healthier fish resources (including fisheries and threatened and endangered species), improved waterfront property values, etc. DEQ recognizes that there are difficulties in developing dollar estimates on both sides of this equation, especially on the benefits side. DEQ has already undertaken a rough, first-cut estimate of the costs and benefits and presented those results to the NWG on January 21, 2010. DEQ continues to refine these estimates going forward and will present them again to the NWU at a future meet