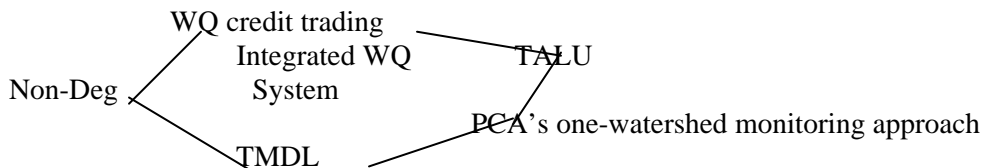


*Nondegradation Rulemaking Meeting Notes
June 9, 10 and 12, 2009
Compiled Comments*

Issue Paper 9. How should cumulative impacts be addressed?

General Comments

- There are several things aligning to support nondeg rule implementation; intensive watershed monitoring, clean water funding, significant developments in remote monitoring and LOQ analysis, protection strategy.
- Nondegradation needs to address all activities not just industry. See Ag.
- Where is the \$ for this coming from? Data gathering, monitoring, assessment is expensive. We don't have staff or budget to deal with our current problems.
- These processes together should mesh.



- The approach must be realistic and cost effective.
- How much effort should be put into establishing baseline? How often are standards set/reviewed and what if they change? Are they reapplied to a permit?
- I am concerned that “regulated” entities will be the only way the State can affect a degradation reversal. The brunt of financial burden will be on these “regulated” parties, even if the “nonregulated” entities are the cause of degradation.
- Thank you for pushing this important work forward and for providing opportunity for comment
- At our last stakeholders meeting (June 12, 2009) regarding the anti-degradation rule making, the audience was not aware of the existing database, Environmental Data Access (EDA) designed for Minnesota monitoring results submitted in cooperation by (your agency and) partner organizations.

STORET (short for STOrage and RETrieval) is the U.S. Environmental Protection Agency's (EPA's) current repository for water quality, biological, and physical data and is used by state environmental agencies, EPA and other federal agencies, universities, private citizens, and many others thru Fall 2009. Either of these databases could be utilized to track anti-deg criteria, analyze results/trends, facilitate rule making, etc. Shortcut to:

<http://www.pca.state.mn.us/data/eda/>

-It is unclear from the issue paper whether EPA requires that MN incorporate cumulative impact review in their anti-degradation rules. If not, perhaps this should be an area that MN opts not lead due to the complexity of the issues, the many unknowns, and the lack of staff resources to address them effectively. Conceptually, understanding cumulative impacts is laudable, but practically it may be an exercise in futility.

-Instead of thinking about what others have done (e.g. assimilative capacity), be creative and think about what we really need and how we can achieve it (re-write the book in a straight-forward, meaningful, and results-oriented way).

-If permit conditions are being met, aren't we achieving nondegradation? The ability to opt out of nondeg review is a great incentive for permit compliance.

-Baseline needs to be and stay 1988; changing the baseline to account for water quality improvements creates a moving target, asymptotic and loses cost-benefit and is a disincentive

Discussion Points

1) Should there be an understanding of cumulative impacts before an individual permit or certification is issued?

- When the data and information is available to do so. Focus on developing the monitoring and data management needed to support the system.
- Clearly defined expectations, not sure that certification should be included. A permit should be the trigger mechanism.
- Yes, as an individual permit suggests an impact potential greater than one that could be covered under a general permit. Significant inputs should be held to a higher standard.
- The problem w/understanding cumulative impacts is that you are then predicting the future. The future is/can be comprised of scenarios, several of them, that may or may not be of consequence.
- Yes, at some level. Would be incredibly difficult to set different standards for each water body.
- Yes, even before considering inputs.
- This must be clearly defined with established criteria to provide consistent guidance for all permittees. The agency and permittees must know what is needed and when the end of the study is reached. A moving unpredictable target is not acceptable.
- What model/method do you use to determine impacts? Is it up to the permittee to determine this?
- Yes, the environmental review process should (presently does for mining) consider/require consideration of cumulative impacts.
- Yes! How can we practice protection w/o accounting for cumulative impacts?
- To truly understand cumulative impact effects on a receiving water, a cumulative impact review would need to address all discharges to that receiving water simultaneously – an obligation far outside the scope of any single permittee. To do so on a facility-by-facility basis may not create an accurate picture. This does not seem possible or realistic.

2) How should information regarding cumulative impacts be used? (May be more than one.)

As a trigger for review?

Determining level of review?

To create a margin of safety?

To create a reserve or set-aside?

To identify downward trending waters?

- All of these when data and information is available
- Some level of all/most of the above. I think the idea of a reserve/set-aside is a good one, especially when combined with a margin of safety (i.e. using conservative numbers)
- Yes, if we have info to base it on.
- (*The options of a margin of safety, reserve/set aside and identification of downward trending waters*) all require a significant understanding of ambient conditions. We will not have this understanding in many, if not most cases. What then?
- Definition :MOS-all high quality, Set-aside- different types of high quality H₂O
- There should not be a double protection mechanism in place. Water trends are important and should be factored receiving consideration.
- Any of the suggestions above need to have a baseline established. Baseline needs to be developed in accordance with the MPCA's assessment monitoring program!!!

- *For the option of using cumulative impact as a trigger for review*- How do you trigger a review for possible future updates?
- *For the options of using cumulative impacts to create a margin of safety, reserve/set aside and identification of downward trending waters*- How will this work w/the new effluent guidelines being developed by the EPA and then become part of the NPDES permit?
- Need to involve monitoring and analytical professionals to inform rule making. There are many issues such as measurement error and statistical significance that enter into how the rule is implemented. They can also address the difficulty of conducting certain analyses.
- *Choosing the option of using info regarding cumulative impacts to identify downward trending waters*- Some small impacts may be acceptable, until there is a major decline in water quality trends might not be worth worrying about.
- *Choosing the option of using info regarding cumulative impacts to create a margin of safety*- Sounds like there is a minimal or no safety margin. Built in because the numbers needed to be presented to an administrative law judge: yes, use it as a safety margin.
- *Choosing the option of using info regarding cumulative impacts to determine the level of review*- Type and extent of cumulative input would seem to drive the extent of review that would occur.
- Multiple levels of conservatism or protection result in an unrealistic margin of safety, which hampers or presents otherwise acceptable economic growth. If a realistic approach to development is not developed for northern Minnesota, then a clear policy and statement should be forthcoming to openly limit or prevent industrial development.
- You need to define cumulative impact first.
- *As a trigger for review* –yes , by identification of a downward trend.
- *To determine level of review*- I am unsure what this means... if a downward trend is present, degradation is occurring and a review process should be defined. The review process should be the same, with decision points (levels?)
- *To create a margin of safety* –no
- *to create a reserve or set-aside* –no
- *to identify downward trending waters*- yes
- If they are known and accurate, they could be used during the development of a TMDL to help create that margin of safety/

3) What are the best ways to describe cumulative impacts and why? (Some considerations include: assimilative capacity, dilution, changes in ambient conditions, changes in concentration and/or mass, parameters of concern, surrogate measures, others?)

- Impact on use, change of use, biological condition.
- Assimilative capacity seems like a leading candidate, dilution also has merit.
- Should be a tiered approach – with assimilative capacity at the top. Dilution and changes in concentration and/or mass. Use surrogates vs specific parameters. Background needs to be considered.
- Ideally, as an assimilative capacity, but often this will not be possible. We may be left with surrogate measures of even mandatory BMP's unless an assimilative capacity analysis can be done by the regulated entity.
- Aquatic vegetation (more or less)
- Temperature
- DO
- *assimilative capacity*-seems to be the most important component and one that might be best understood by public and local governments.
- Each of the items identified above will be required for use with various parameters. Care must be taken not to develop an approach that establishes a bar that is so high that it cannot be

achieved. Industrial development cannot proceed with zero impact due to the state of technology that currently exists.

- Define a parameter list to monitor for and then set standards and methods for each.
- Per EPA guidance/guidelines- all relevant information should be considered. However, relevant information must have a sound scientific basis and use. In other words, what is considered relevant must be carefully considered and justified.
- I don't like "assimilative capacity" as a term, but the idea it represents is a good one. Perhaps "dilution potential"? This is a tough one. I think it is very important to remember that water quality and water quality impacts do not fit on a smooth curve but rather function in a step-wise fashion.
- There are insurmountable problems with using an assimilative capacity approach:
 - It is not very practical as it relates to storm water discharges (which are permitted as a single point sources but behave as non-point sources with THOUSANDS of discharge locations)
 - To determine assimilative capacity, we must know baseline and current conditions (a long data history); in reality, these are often unknown
 - In addition to being a general characteristic of a receiving water, assimilative capacity is specific to the discharge location and time of discharge

Dilution, changes in ambient conditions, or changes in concentration and/or mass of constituents of concern present many of the same issues – particularly, inadequate information about baseline and current conditions. Would permittees have to establish baseline if it doesn't exist? (There is no consistent methodology to use at this time). Do we use % of WQS? Would assumptions be valid. There are so many more unknowns than knowns!

4) At what spatial scale should cumulative impacts be considered?

- Watershed, and sub-watershed when appropriate- we are abandoning reach-based TMDL's.
- In the immediate vicinity of the project, but no greater than minor watershed.
- DNR sub-watershed.
- Entire lake or stream.
- Watershed level
- Eight digit HUC would make sense as it would relate well to MPCA's watershed assessment cycle of assessing all 8-digit HUCs in 10 years.
- Metro area and maybe other large out state cities could be looked at differently.
- Trading could go beyond the 8-digit HUC (MN river basin) if scientifically justified.
- It should be considered on a minor watershed basis. If larger scale is used, the studies become cost prohibitive for individual permittees.
- More study needed? (expensive/time consuming).
- Stream morphology and therefore ecology is very important and can change significantly depending up the "reach" or "river segment" characterized. If the purpose of nondegradation is to maintain river ecology as a whole, then the parts or "segments" must be known and associated impacts known. Degradation in one segment may or may not be considered degradation in other segments.
- It think on a watershed basis. Whatever the watershed is the receiving water, and also considering the cumulative impacts on the next order up (which will probably not be much usually, but can be significant in some instances)
- The permittee is limited by the spatial scale of their own jurisdictional boundaries – this could be as small as a facility or as large as a public jurisdiction's political limits. Scientifically, at what scale do cumulative impacts need to be evaluated to determine their effect on a receiving water?

5) To adequately gauge cumulative impacts, should additional information be required of regulated entities with discrete discharges to provide additional assessment information on the receiving water as part of their permit requirements?

- For parameters regulated for that entity and within the reach of their impact. However, in the longer term intensive watershed monitoring and new developments in technology should alleviate burden.
- I think they need to and they currently are collecting baseline information for the project.
- Yes. Pay some of the cost of assessment if you want to create the potential for impact.
- Regulated entities should be doing monitoring of their receiving water, upstream, downstream. However this needs to be done in a way that is helpful and useful. Monitoring just to monitor is useless.
- Need to consider costs to conduct river/lake monitoring and how to ensure quality and comparability of the data.
- This will be expensive, PCA needs to do a cost analysis to see what the burden of this would be (time/dollars) on a typical MS4.
- No. Permittees are already dealing with high costs for monitoring. Further, permit fees will soon be increasing significantly and some of the fee payments should be allocated to baseline studies to be conducted by the MPCA.
- This could be a possibility if it is done fairly.
- Again, I do not believe that “regulated” entities should bear all the financial burden, especially when degradation is primarily due to nonregulated actions/entities.
- Yes, there is no other rule/law enforcement entity that considers “ignorance” to be a defense! If no baseline assessment exists, the RP should be required to provide that data.
- None

6) Should the MPCA develop and implement a tracking system to monitor cumulative impacts?

- The key is to intermittently monitor all watersheds for all parameters and manage all impacts. With that database, nondeg, TMDL’s and protection plans can all be supported.
- This type of a system needs to be coordinated with the assessment monitoring program. Permittees should not fund this type of activities.
- This is potentially partly in place through existing database. A few staff to analyze data could track trends, and use these data for follow-up where impacts are seen.
- This potentially a huge topic. Is this for every water in the state? From head to mouth of every stream? For what parameters? Monitor for parameters, impacts on plant life, fish, flow, etc. The list is almost endless.
- If possible, might already be most of the data out there now, just needs to be located and traced.
- Yes
- Yes, but should be integrated with TMDL/monitoring activities and also water quality point and non-point trading activities. Hence, build software that integrates more than one program in order to look at water quality holistically.
- Yes, otherwise each permittee must develop the cumulative impacts information from other projects each time a permittee pursues a project. This becomes a costly endeavor for new projects.
- How will this be funded? I think it’s a good idea, but it’s a huge undertaking.
- How can the MPCA not have a tracking system? You need to identify downward trends from a baseline, tracking must be done... The question is “who”... again, MPCA, not “regulated” entities.

- Who pays the bill?
- Yes, if we don't then no one will. It is our job to think and act on these issues now before protection is no longer possible.
- See my general comment at the beginning. But if you do proceed in this attempt, gaining an understanding of cumulative impacts might be the result of trying to create a tracking system and may result in more fruitful guidance in the future.