

*Nondegradation Stakeholder Meeting Notes
January 26 and 30, 2009
Compiled Comments*

Issue Paper 8 How should nondegradation be applied to NPDES-permitted stormwater activities?

General Comments

- This needs to be performance based w/suites of BMPs and not waste money and time on sampling at least at existing facilities.
 - A comprehensive CWA vision? There must be a coordinated effort to try to determine the net affect of: 1) nondeg. rules, 2) TMDL, 3) new general stormwater permit(s), 4) individual (stormwater) permits, 5) NPDES and 6) TALU.
 - How does all this come together? Conflicts?
 - For existing entities, the concept of new or increased stormwater discharges and significant stormwater discharges is impractical. Precipitation water must be discharged regardless of the volume or magnitude of the storm. There is much fluctuation in storm events from year to year and averages are meaningless for nondeg purposes.
 - Tough issues. Good point by one attendee. What are the benefits of these outcomes?
 - Need to incorporate maximum flexibility.
 - Need to integrate with TALU, standard setting and TMDL development and implementation.
 - Since storm water is considered a major (or “the major”) source of water pollution, knowledge of baseline conditions is essential! Receiving waters and their sediments must be evaluated to determine what has occurred in the past. Then the potential pollution from proposed activities evaluated and graded as to dangers posed to receiving waters. Since many pollutants and chemical compounds such as pharmaceuticals will not break down into harmless elements, (i.e. biodegrade) they must be identified and steps taken to mitigate them to acceptable levels. It is essential that manufacturers detail the content of their discharge and inform the public and users of the potential side effects of these substances if they end up in drinking water sources. Also, phosphorus, nitrates, sulfites and common salt are considered potentially most damaging to the receiving waters. All of the above comments also apply to wastewater discharges.
 - These were very hard questions to answer without any thoughts from PCA on what your thoughts are-much easier to critique and discuss a proposal and debate pros and cons of where you want to go.
 - Here are some initial comments on Nondeg Issue Paper #8.
 1. You have understated the differences between non-point (including urban stormwater) and point sources (PTOW and industrial). For a point source, the nondeg review covers:
 - a. Single discharge
 - b. Single receiving water
 - c. Relatively narrow range of pollutants
 - d. Relatively consistent discharge
 - e. Single point in time (do the review once for a single change or new discharge)
- For a city, the nondeg review covers:
- a. Discharge from all new impervious areas (many, many, many)
 - b. Discharge to multiple receiving waters (cities have scores or hundreds of lakes, wetlands, and stream reaches that receive stormwater runoff)
 - c. An extremely wide range of pollutants (everything in stormwater)
 - d. Discharge that varies enormously depending on storm events, antecedent conditions, seasonal variation, variation between years, etc.)
 - e. An extended time period (a city will be covered under their MS4 Permit for many years to come).

This set of differences (and I’ll bet we could identify and list more) is remarkable and significant. Arguably, this should be the first item covered in the paper. It should be stated very clearly and emphatically. It affects **everything**.

2. There should be more discussion about the difficulty and expense in monitoring urban stormwater runoff. It should also be noted that local funds expended on monitoring diminish the local funds available for water quality project implementation.
For example, the document (CENTER FOR WATERSHED PROTECTION) “Monitoring to Demonstrate Environmental Results: Guidance to Develop Local Stormwater Monitoring Studies Using Six Example Study Designs” provides this example for the cost of a simple SW monitoring program:
The illustrated budget estimates a total cost of \$61,700 for monitoring 3 small residential outfalls draining areas between 150-175 acres within a 10-square mile subwatershed. The objective of the monitoring study is to characterize stormwater quality in medium-density residential neighborhoods (e.g. townhomes) that predate existing stormwater management design guidelines to identify the need for improved STPs that address water quality. The parameters of interest include a standard parameter set of TSS, TN, TKN, nitrite, nitrate and TP. If additional land use types are included in a monitoring study, additional resources would be needed to identify sample sites, and collect and analyze samples.
3. In your description of an MS4 conveyance system (pg 2), you should include storm sewer pipes.
4. Toxics are a significant concern in urban stormwater (pg 4). Just talk to Bruce Wilson about PAHs.
5. A legitimate question raised on pg 4 – If an MS4 is in compliance with the MS4 Permit, should they be considered to be in compliance with antidegradation? The MPCA took this approach with the Construction Permit and TMDLs. If a permitted site met a few additional conditions under their Construction Site Permit, they are considered to be in compliance with any TMDL.
6. Should impervious area percentage be considered as a sufficient surrogate for a significance test? There is a strong correlation between impervious area and water quality. It is data that we currently have in hand. What about population growth (past & projected) as a surrogate?
7. There are a couple interesting questions related to the significance test question:
 - a. What does it mean if a city falls below a significance test? Are they off the hook completely and forever? Is the question revisited at some predictable and consistent future point in time?
 - b. If a city can show that there has been no increase in impervious area in their jurisdiction since 1988, should they be considered OK regarding nondeg with no further analysis?
8. In your discussion of waters with prohibited or restricted discharges, you should include information about the provisions in the current MS4 Permit to address MS4 discharge to these waters. Are these provisions sufficient?
9. A fundamental question....For an MS4 city, should antidegradation be applied by jurisdiction or by each individual water body in the jurisdiction? The implications of the answer to this question are enormous. The Permit is by jurisdiction. Is the Permit the vehicle through which antidegradation is applied to a city? If yes, it seems that the application of antidegradation should be by jurisdiction.
10. How will antidegradation be applied to non-traditional MS4s (watersheds, MnDOT, U of M, etc.)?
11. In the discussion of volume (pg 8), there should be mention of the concept that there are some cases where volume increases do not have “the potential to alter the chemical, physical, and biological integrity” of a receiving water in any meaningful way – such as discharges to high order streams and large lakes.

1. Given the wide fluctuation of flow and pollutants in stormwater runoff, how could these and other factors such as rainfall intensity, duration and frequency be applied to nondegradation under a general permit?

- Needs to be some limit ~ 2 years, but needs to look also w/frequency to determine BMPs.
- This is difficult, but I think specific suites of BMPs to address the items of concern. Monitoring of stormwater doesn't give the type of result to determine if a discharge is a degradation issue, but known BMPs can get at limiting effects. Another problem is looking at a site driven approach when by the time/distance the site discharge reaches the water body there may or may not be a degradation issue.
- I think you can have a baseline of a 1" rain event, and compare storms that are close to that. There will always be larger rain events that cannot be contained/planned for.
- Flow should be an average not a one-day, but one month or year?

- Nondeg. of a water becomes hard when non-regulated activity masks/overrides any single regulated discharger. Having quantitative standards vs. BMPs become impractical.
 - Technology is available to remotely monitor intensity, duration and frequency but is expensive to implement. Testing of flows into receiving waters could be monitored and analyzed to determine what and how many pollutants are being carried by the storm waters and then extrapolated to estimate the total for a watershed. Again this would be expensive but may not be as expensive as clean up afterwards. Some recent studies have shown that some pollution is essentially irreversible. Containment basins built to hold the worst case conditions might be the most logical approach
 - It can be, but not easily. It can probably be best done through general requirements or a tiered approach. It absolutely has to be different than current “point source” standards.
 - It should not monitor the receiving water and the various interested input locations to determine the impact based on TMDLs or TALU.
 - Ask Randy Neprash.
 - Use BMP approach
- 2. The current concept of “significant discharge” is used as a means of identifying discharges/activities that would require nondegradation review and conversely identify those discharges that fall below a threshold and for which nondegradation review would not be required.**
- a) Should this concept of “significant discharge” be applied to NPDES-permitted stormwater activities?**
- Yes, because of time a distance issue above. Also do to the insignificance of some activities. Concisely some large natural events probably need to be accounted for. No one could meet nondeg in SE MN last year.
 - If you have an NPDES permit the discharge is already regulated,. Nondeg. is already covered.
 - No, in this case the stormwater is already being collected, treated, and discharged pursuant to the individual permit. Treatment systems must be designed for typical flows. The cost and impractical nature of designing for maximum storm events are prohibitive.
 - Who determines what “significant” is?
 - Only as it affects TMDLs and TALU.
 - Yes. Storm water runoff is probably the largest source and least controllable and thus extra care must be taken in evaluation and mitigation approaches.
 - Yes, use 2 year storm event
- b) Could multiple levels of “significant discharge” (a scaled approach) be used to identify and “sort” activities that have greater potential to impact the quality of receiving waters?**
- Yes, if carefully crafted. It should also take into account what the permittee can control onsite and characteristics of discharge at water body.
 - I think the size of the receiving water should be considered.
 - Yes, it’s a better approach, especially for addressing different types of stormwater.
 - No, comprehensive watershed approach is preferred where each jurisdiction takes a share in the responsibility. It also should be based on good monitoring. Most permittees want to see the science behind their limitations.
 - Since many levels of discharge will occur randomly (nature) the ongoing testing and evaluation must be continually updated and refined as new data and information is learned.
 - Yes. Both the amount of discharge and the quality of the receiving waters should be considered
- c) If the concept of “significance” is used, how should it be defined for stormwater discharges? Criteria for defining “significance” may include: ease in the identification of “significant” activities; “parameters of concern” (e.g. specific pollutants, flow, toxics, temperature); consistent approach; surrogate or proxy measures (e.g. land cover, land use, etc.); characteristics of the receiving water; and connection between the activity and its impact on the receiving water.**
- I have no suggestions for a definition of “significance” with regard to stormwater. However, if “significant” is used, it must be defined.

- Significant activities? Significant rainfall events? Significant bodies of water? (why protect an urban drainage ditch to the same level as the boundary waters)?
- Depends on the recovery water and designated use associated with constraints or TALU level.
- It is essential to identify and separate the pollutants coming from runoff and from direct impact to the receiving waters.
- Construction activities over 5 acres, MS4-everyone, Ind ?

3. Should the concepts of “new discharges”, “expanded discharges” or “baseline conditions” be applied to regulated stormwater activities for Construction, Industrial and for MS4 activities?

a) If so, how should these terms be defined and applied?

- ? construction would always be new/expanded?
- ? unpermitted industries are they new?
- ? MS4s always expanded?
- Baseline
- Expanded is rough for ISW (and may be MS4, too). New since '88 is easier to figure out.
- Same as TMDL, there is a baseline condition that is desired and the cumulative effect of all contributors is taken into account. We need to be able to answer permittees call to fix their own impact.
- Yes. Once baselines have been established, any increase should be considered “new discharge”.
- “new or “expanded” -> the creation of 1 acre of new impervious surface
- “Baseline” for a MS4 almost impossible to go back to 1988 levels. A big guessing game and not very meaningful. Should start baseline with new permit and require LID and volume control to nondeg.

b) If not, what other concepts/terms could be used to describe stormwater activities that have the potential to impact receiving waters?

- No. How could you possibly apply non-deg to stormwater if stormwater is a “new discharge” or “expanded discharge?” Given TML – no discharge of Hg would be allowed (most waters impaired for
- Hg) and therefore, no new or expanded discharge (i.e., no discharge of stormwater). Rainfalls, it is not new or expanded.
- Increase in impervious areas without infiltration/vol.

c) Given the thousands of applicants seeking coverage under a general permit it may be impractical to establish baseline conditions based on quality of the receiving water. What are some options for ensuring that water quality does not deteriorate?

- Suites of BMPs.
- Stormwater from discharges is currently entering receiving waters. The same volume of stormwater will continue to enter the same receiving waters but in the future through general permits. Because of BMPs the quality will increase. Establishing baseline conditions for all receiving waters is impractical.
- “If you meet permit conditions, you do not degrade waters” a lot of other states stormwaters have. I feel, from a gut reaction, it’s a cop out response, but if those states stand by this response, why can’t we use it?
- Expand the regulations beyond current permittees. Right now, it appears that more handcuffs will be placed on MS4’s without any capability for non-regulated committees.
- Have the applicant test and evaluate the substances he would be discharging into the receiving waters and bear the associated costs since prevention is much cheaper than cure afterward.
- Application of BMPs requiring volume control greater than the ½ inch in current NPDES permit

4. What methods and criteria should be used in the assessment of stormwater impacts on receiving waters, especially considering the various types of receiving waters? Examples may include volume/flow, particular pollutants (pollutants of concern), surrogate measures, etc.

- Since these are for several permits, I believe volume flow and/or storm flow peak attention should be the assessment method. Monitoring is unfortunately not representative or reproducible.

- How can this be done? Modeling based on flow measurements? But cannot do this without data What should be monitored? If monitored, how do you/we reconcile unregulated input (rain)/discharge impacts with respect to TMDL etc.
 - If high biotic indices exist in a receiving stream, this should weigh heavily on impact assessments.
 - Activities and particular pollutants being discharged.
 - Again, it depends on the receiving water – TALU could be used to determine the criteria.
 - Volume/flow should only be considered after the development of technology to control/regulate rainfall.
 - As mentioned before, technology is available to remotely monitor intensity, duration and frequency but would be expensive to implement. Testing of flows into receiving waters could be monitored and analyzed to determine what and how many pollutants are being carried by the storm waters and then extrapolated to estimate the total for a watershed. Again this would be expensive but may not be as expensive as clean up afterwards. Some recent studies have shown that some pollution is essentially irreversible.
 - Increase in impervious area as surrogate
- 5. An adaptive management approach evaluates the effectiveness of control measures during and between permit cycles, and makes modifications to those control measures where necessary. Is this a reasonable approach? If so, what tools could be used in the evaluation of control measures? Examples may include: current technologies (e.g. best available treatment technologically and reasonably achievable); design standards; certification of BMPs or technologies; benchmark monitoring; other.**
- Adaptation management is on going in the industrial setting and is in my mind the only way to deal w/nondeg. I would not mind specific “suites” of BMPs, but shy away from BAT. This would necessitate specifics which may not be effective on a site basis, by cost, or may be redundant considering existing BMPs. I am very skeptical of stormwater monitoring. No sample is even representative!
 - Yes, but should be based more on TSS, turbidity, etc. not specific parameters. It may be tough enough for permittees to comply with requirements/standards throughout a 5 year permit cycle; don’t make changes more than once in a cycle.
 - All of the above.
 - # and types of BMPs installed. Also O&M on BMP treatment technologies
- 6. Federal antidegradation regulation requires public participation be incorporated in a State’s decision to lower the quality of high quality waters. One of the challenges of fulfilling this requirement for regulated stormwater activities is reconciling the site-specific nature of antidegradation with the large number of applicants falling under general permits. Where, when and how should public participation occur for the nondegradation component of regulated stormwater activities?**
- In the general permit notice as individual applications would be impractical.
 - I cannot see how non-deg works without stopping all stormwater discharges because rain contains Hg > TMDL issue in most cases.
 - Permit issuance’s public notice process.
 - Get Lake Associations and local groups involved in volunteering to test and monitor the storm water runoffs and have meetings held locally to limit travel by the public.
 - If using BMP approach-public participation should be at the time of drafting the NPDES general permit. Each MS4 is required to have an annual meeting and nondeg should be a specific part of that process.
- 7. Under the current rule for the protection of Outstanding Resource Values Waters (ORVWs), new or expanded point-source discharges are prohibited to the most pristine or sensitive ORVWs. This presents a particular challenge to regulated stormwater activities where stormwater runoff may be necessary for the hydrologic maintenance of an ORVW. What are the best ways to fulfill the federal requirement of “maintaining and protecting” these waters if prohibition of all stormwater discharge may not be desirable?**
- BMPs driven toward groundwater recharge or stormwater use.
 - How can non-deg of stormwater possibly be applied with regard to a particular parameter (such as mercury) if new permits are required due to per non-deg application to stormwater?

- Simply? No new discharges are allowed to Lake Superior > if a new permit is required for applying non-deg to stormwater than what?
- Stormwater must be discharged in some manner (discharge, infiltration, evaporation). For stormwater, implementation of BMPs is the only option.
- Mandated BMP's to do the "best we can" monitoring could be an option. Containment and treatment of storm waters before allowing discharge is essential. Especially in the case of mining activities where disturbing huge areas of surface allows water (rainfall/snowfall) to cause compounds such as sulfites to react and turn into sulfuric acid which pollutes not just the receiving waters, but groundwater also.
- Not all stormwater is BAD. If one goes back to maintaining pre-European settlement conditions as to volume and rate of runoff the ORVWs should be protected.

8. What are some administrative and technical functions where nondegradation could be implemented at the local (e.g. municipal, watershed) level, yet not delegate authority to the local level?

- Development of community or watershed BMPs. A procedure or physical BMP may be more effective and efficient than BMPs on site or activity basis.
- Monitoring and classification could, but there would be a loss of consistency, and there is not money or staff available. I think this would be great, but we can not keep up with our regular maintenance activities/w/o extra monitoring.
- Must be cognoscente of unfunded mandates to small municipalities.
- Notifying local officials of this discharge.to help MS4's with their discharge.
- Let the "watershed approach" team lead the process of standard development, TALU, TMDL implementation and anti-degradation.
- All comments listed here will most likely cross jurisdictional lines and will be duplicated in various areas between the MPCA and DNR. The important thing is to not let them fall through the crack.
- Monitoring most impacted water bodies to implement "adaptive mgmt" approach. If degrading over time, something has to change. (either city or watershed level)